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The **CHEMIST AND DRUGGIST**

For Retailer, Wholesaler and Manufacturer

DECEMBER 19 1953



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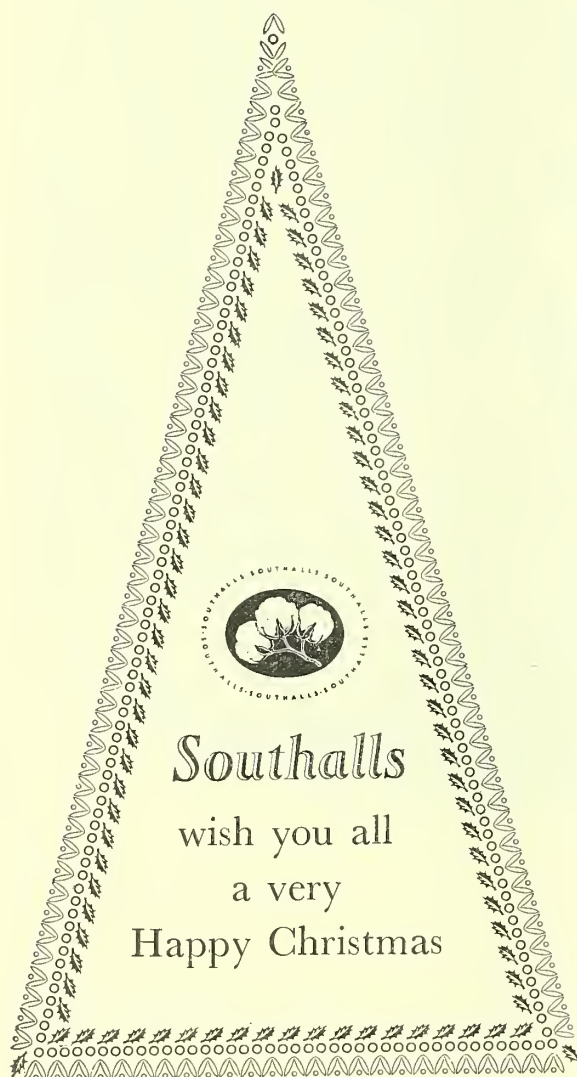
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ESTABLISHED 1859

The weekly newspaper for pharmacy and all sections of the drug, pharmaceutical and fine chemical, cosmetic, and allied industries

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Volume 160

December 19, 1953.

No. 3852

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The CHEMIST AND DRUGGIST

Volume 160

DECEMBER 19, 1953

No. 3852

Dangerous Drugs Control

LITTLE ILLICIT TRAFFIC IN U.K.

THE report for 1952, just published, of the United Kingdom Government to the United Nations on the manufacture and distribution of narcotic drugs indicates that there has been "no appreciable change in the character of illicit traffic in narcotic drugs in the United Kingdom during the year."

Of the seventy-five addicts of manufactured narcotic drugs reported in the professional classes, one is a pharmacist, two are dentists, and seventy-two doctors. Only three are female. Among the non-professional classes there were known to be 141 female and 81 male addicts. The system for the control of international trade continues to function satisfactorily. The drugs branch of the Home Office has continued to co-operate successfully by the interchange of information in regard to illicit traffic with the central authorities of other countries, notably Canada and the United States of America. No action to amend any of the Agreements under the Protocol of December 11, 1946, or the International Conventions was undertaken during the year.

In addition to doctors, dentists, veterinary surgeons, pharmacists, and others who are entitled to be in possession of narcotic drugs the following persons were licensed to possess drugs for special purposes:

Twenty-eight persons in charge of

private dispensaries or nursing homes (including five centres for the fitting of contact lenses); seven for the possession of morphine in ampoules as part of the equipment of ambulance services maintained by local authorities; eighteen persons for analytical research work; eight persons for manufacturing medicines required in the treatment of animals, and twenty-seven for manufacturing patent and special medicines.

One hundred and forty-eight wholesale dealers were licensed to trade in one or more of the drugs, fourteen persons licensed as merchants, and five as brokers.

One wholesaler was licensed to supply his own retail shops; sixteen druggists' sundriesmen were licensed to handle drugs in sealed containers but were not allowed to break bulk; five persons or firms were licensed to manufacture dental anaesthetics; three dental companies were licensed to supply anaesthetics to branch practices; four chemists' transfer agents and liquidators were licensed to dispose of

Dangerous Drugs involved in such organisations; and seven miscellaneous organisations were licensed to supply Dangerous Drugs.

TRADING IN SULPHUR

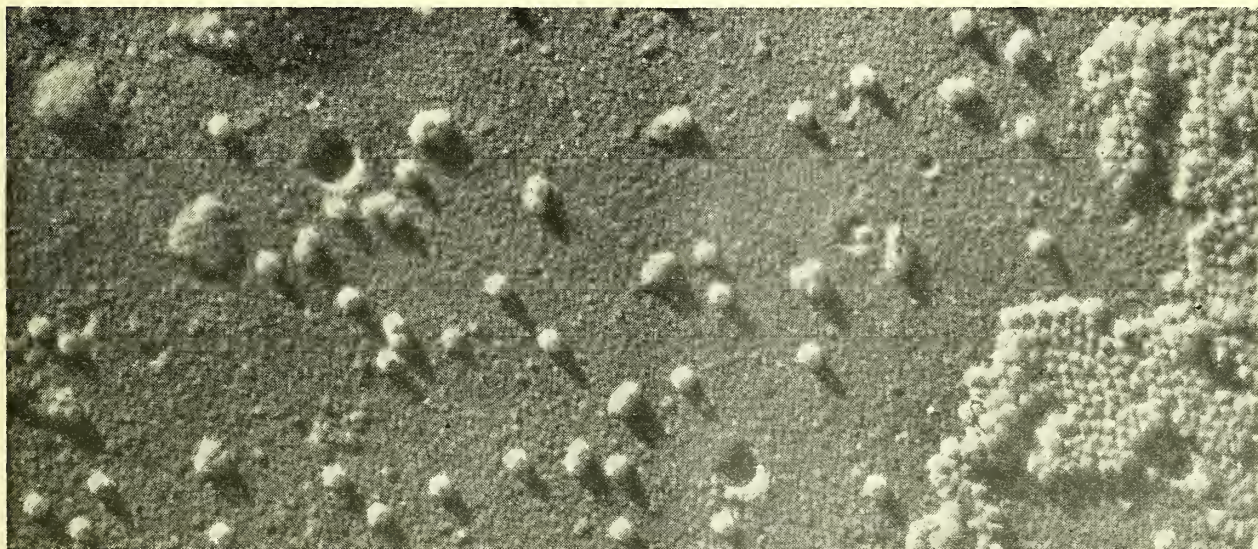
Statutory controls to be lifted

THE Control of Pyrites (Revocation) Order, 1953 (S.I., 1953, No. 1811) and the Control of Sulphur and Sulphuric Acid (Revocation) Order, 1953 (S.I., 1953, No. 1812) made by the Minister of Materials, removes, from January 1, 1954, the remaining statutory controls on sulphur, pyrites, and sulphuric acid. The Board of Trade is shortly issuing a notice about the licensing of private imports of sulphur and pyrites. Making the announcement on December 10 the Minister (Lord Woolton) acknowledged the co-operation of the trades concerned and in particular of the National Sulphuric Acid Association, Ltd., which throughout the thirteen years of public trading in sulphur and pyrites has acted as the Ministry's trading agent.

CLINICAL RESEARCH

Board appointed

THE Medical Research Council announced recently that, in agreement with the Ministry of Health and the Department of Health for Scotland, a Clinical Research Board has been appointed for a period of three years, with the following membership:—Sir Geoffrey Jefferson (chairman), Professor Dugald Baird, Sir Henry Cohen, Professor E. C. Dodds, Sir James



POLIOMYELITIS VIRUS 77,000 TIMES MAGNIFIED, reproduced from an electron photomicrograph of the virus shown for the first time to the eleventh annual meeting of the Electron Microscope Society of America at Pocono Manor, Pennsylvania, on November 5, by Dr. A. R. Taylor (a research virologist of Parke, Davis & Co., Detroit).

Learmonth, Professors A. J. Lewis, G. W. Pickering, R. Platt, Sir James Paterson Ross, Sir James Spence, and Professor B. W. Windeyer. The chief medical officers of the Ministry of Health, the Department of Health for Scotland, and the Ministry of Health and Local Government in Northern Ireland will be assessors of the board, and the secretary of the Medical Research Council will attend all meetings. Dr. F. J. C. Herrald (a senior medical officer on the council's headquarters staff) will act as the board's secretary.

CHEMISTS FEDERATION

Meeting of council

A MEETING of the Chemists Federation council was held in London on December 3, the president (Mr. S. M. Lennox) in the chair. Meetings of committees were held the previous day. The council approved the following applications for manufacturer membership: *Ventin and Odone Medicinal Products, Ltd.*, Verodo Building, Hampden Road, Muswell Hill, London, N.10 (product, Ventin's Venese anti-gastric mixture); *Ulsalets, Ltd.*, 13 Mealhouse Lane, Bolton (product, Ulsalets). The following products were accepted as additions to the schedules of C.F. agreements: *Harker Stagg, Ltd.* (Nadrol); *Parke, Davis & Co., Ltd.* (Mercardan and Merclozan); *Riker Laboratories, Ltd.* (Rauwiloid and Rauwiloid plus Veriloid); *Wigglesworth, Ltd.* (Restwell tablets). Reports of the National Pharmaceutical Union branch meetings at which C.F. matters had been discussed were received. The assistant secretary (Mr. C. C. Green) reported upon propaganda work undertaken by him in Oxford and Reading. A report was received upon visits made by the Federation's representative to chemists in the Newport and Monmouthshire N.P.U. Branch area and the Rhymney and Sirhowy Valleys N.P.U. Branch area. Recommendations contained in a report of a meeting of the C.F. standards committee were adopted and the council noted with pleasure the co-operation of several C.F. manufacturers in amending certain claims made by them for C.F. products in accordance with the C.F. code of standards.

WAGE CLAIMS

Chemical and dressings industries

AT a meeting of the Joint Industrial Council for the chemical industry held in London on November 20, the em-

ployers' side, replying to an application of the trade union side for an increase of threepence per hour for adult employees, suggested that the claim should be deferred for three months. After discussion the trade union side indicated they had no authority to suspend negotiations and the matter is being referred to the membership.

The workers' side of the Joint Industrial Council for the surgical dressings industry has decided to make application for an increase of 8s. per week on all adult rates with proportionate increases for juniors.



RARE DRUG JAR: The Lambeth delft polychrome armorial drug jar shown, dated 1647, and believed to be the earliest dated example of its kind in existence, has been added to the Pharmaceutical Society's collection. The jar, almost 16 in. high, is decorated with the full arms of the Apothecaries' Company. Previously the earliest recorded polychrome example bearing the arms of the Apothecaries' Company, and date, was one dated 1658 in the collection of Mr. Geoffrey E. Howard, London.

DEXTRAN SYMPOSIUM

Five aspects discussed

THE Society of Chemical Industry's microbiology group heard papers on five aspects of Dextran at its meeting in London on December 3. Professor M. Stacey, D.Sc., F.R.I.C., F.R.S., dealt with "Polyglucose Structures with Special Reference to the Dextran Group"; Mr. A. E. James, B.Sc., A.R.I.C., with "The Technology of

Dextran Production"; Mr. F. Fletcher, M.D., with the properties of dextran from the physiological aspect, Mr. A. W. Wilkinson, Ch.M., F.R.C.S., from the physiological aspect; and Mr. A. R. Lockwood, B.Sc., A.R.I.C., with "The Utilisation of Dextran and some of its Derivatives."

LOCAL NEWS

Guests of Lord Mayor

MEMBERS of the Liverpool Chemists' Association were guests of the lord mayor of Liverpool (Alderman W. J. Tristram, M.P.S.) at a ball held in the city on December 9. Alderman Tristram and Mr. J. Farrer Barnes (vice-president of the Association) (the president (Mr. L. A. Butt) was prevented by ill-health from attending) received more than 350 guests. Alderman Tristram's party included his brother (Mr. H. C. Tristram, M.P.S.) and representatives of neighbouring pharmacists' associations. During an interval in the dancing Mr. Barnes expressed the thanks of the company to the lord mayor for his hospitality. He did not know, he said, of any pharmacist who had done so much for pharmacy locally and nationally and in such a variety of ways as Alderman Tristram.

£100 N.H.S. Penalty

THE Shropshire Executive Council at a meeting held recently decided to withhold £100 from the remuneration of a chemist contractor to the National Health Service after it had adopted a report of the Pharmaceutical Service Committee that he had failed to submit his prescriptions for pricing within the prescribed time. During October, stated the report, he had submitted prescriptions dispensed from May 1952 to February 1953, inclusive (in value more than £4,000). Those from March onwards had not yet been submitted. The contractor will be instructed to submit all outstanding prescriptions not later than January 31, 1954, it was decided.

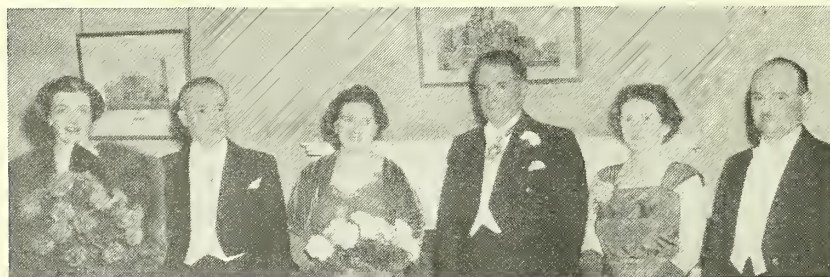
Lung Cancer in Swansea

AT a meeting of the Swansea Health Committee held in Swansea on November 30 the medical officer of health (Dr. E. B. Meyrick) said that Swansea had the highest lung cancer rate in Wales in 1952 (475 cases per million of population). Cardiff was next with 324, then Newport with 305. The Committee expressed concern at those figures and agreed to support an investigation of the National Smoke Abatement Society into the possibility that diesel oil fumes caused the disease.

IRISH NEWS

Name Removed From Register

THE Statutory Committee of the Pharmaceutical Society of Northern Ireland, at a meeting in Belfast on December 8, ordered the removal from the Register of Pharmaceutical Chemists of Northern Ireland of the name of Matthew George Hay Orr, whose address in the Register is 36 Mount Street, Ballymena. Mr. Orr was sen-



LORD MAYOR ENTERTAINS PHARMACISTS: The lord mayor of Liverpool (Alderman W. J. Tristram, J.P., M.P.S.) among pharmaceutical colleagues at a reception and ball at Liverpool Town Hall recently. Left to right, Mrs. J. Farrer Barnes, Mr. J. Farrer Barnes, the lady mayoress (Mrs. Vyvyan), Alderman Tristram, Mrs Clifford Tristram, and Hugh Clifford Tristram, M.P.S.

tenced to six months' imprisonment on pleading guilty at County Antrim Assizes in March to four counts of making false representations in an attempt to procure himself to be registered as an ophthalmic optician under the Health Services Act. Mr. J. F. B. Russell (counsel for Mr. Orr) told the Committee that Mr. Orr had qualified as a chemist in 1932 and after the war decided to study optics. There was no suggestion that during his years as a chemist his conduct had been other than the highest. He was a man of unblemished record but appeared to be easily led and that resulted in his downfall. He (counsel) was convinced that in the present case Mr. Orr had been influenced by bad friends. Mr. Russell added that since Mr. Orr came out of prison on August 1 he had been approached by a number of local chemists to assist them and had acted as locum tenens to four of them. Mr. W. F. Patton, Q.C. (chairman), announced that the Committee had given careful consideration to the case and felt that what Mr. Orr had done was, not without a considerable amount of deliberation, to get something he was not entitled to by representations which he knew were untrue. What the Committee had to decide was whether a person committing such an offence was fit to be on the Register, and it was their decision that the Registrar should be directed to remove the name.

Irish Drug Association

THE committee of the Irish Drug Association, at a meeting held in Dublin on December 7, Mr. T. R. Bourke (president) in the chair, reviewed the question of supplies to hospitals and similar institutions by manufacturers and wholesalers and decided to refer the matter to the Council of the Pharmaceutical Society of Ireland. The committee also considered various matters raised at local association meetings including sales of horticultural and veterinary preparations by non-chemists and chemists, competition from grocers, etc., in sales of "patents" and packed drugs. The following were elected members of the Association: Messrs. T. Duffy, M.P.S.I., St. Patrick's Street, Castlereagh, co. Roscommon; M. McMahon, L.P.S.I., The Square, Ballyragget, co. Kilkenny; R. C. O'Higgins, L.P.S.I., 38B South William Street, Dublin; E. O'Reilly, M.P.S.I., Main Street, Ballyconnel, co. Cavan; Dr. D. Parker, Bridge Street, Newcastlewest, co. Limerick; David Rea, Ltd., Rosemary Street, Roscrea, co. Tipperary, and Mrs. H. P. Stanley, L.P.S.I., Ballinlough, co. Roscommon.

Christmas Shop Hours

THE following hours of opening for the Christmas season have been agreed between the Irish Drug Association and employees' unions: December 18, 19 and 23, 9 a.m. to 8 p.m.; December 20, 11 a.m. to 1 p.m.; December 21, 22, 9 a.m. to 7 p.m.; December 24, 9 a.m. to 9 p.m.; Christmas Day, closed; December 26 and 27, 11 a.m. to 1 p.m., and December 28, usual hours. Members were asked to grant, where possible, facilities to employees to visit their homes in the country.

TOPICAL REFLECTIONS

By Xrayser

Lectures on the B.P.

The names of the three lecturers on the British Pharmacopœia whose discourses are abstracted on pp. 595-97 are a guarantee that their remarks are worth reading carefully. My comments are limited to Professor H. Berry's lecture because its contents have perhaps a more general appeal than those of Mr. T. C. Denston and Professor W. H. Linnell. Professor Berry has carried out so much research on sterilisation that his remark on the "great need for knowledge about the stability of injections" comes with authority. The need seems to justify an academic study. Many of us can agree with the lecturer's opinion that "the passing of the old formula for strong ointment of mercuric nitrate is a loss to the student"; I am tempted to add "and to the examiner." Professor Berry suggests that though most suppositories and infusions have disappeared from the Pharmacopœia, eventually some of them will have to be brought back; this view is much wiser than wholesale dismissal of medicaments that have served medicine and pharmacy well. In an adjoining sentence we read: "Pills have gone for good, and so have lozenges, except for penicillin lozenges." Tablets have undoubted advantages over pills in accuracy of dosage and ease in swallowing; but I am not so sure about the final abolition of lozenges. When gradual disintegration in the mouth is desired, there will probably be a succession of patients who prefer their doses sweetened. Possibly lozenges will make a return, especially if a widening variety of antibiotics, for example, is included in succeeding editions of the Pharmacopœia.

Points in Geriatrics

The informative address of Dr. O. Taylor Brown at Dundee (p. 586) focuses points of importance in caring for the old and the elderly. Though this is more a social problem than a medical or pharmaceutical one, there are reasons for keeping up to date on it. It will be noticed that Dr. Brown deprecates the routine dosing of old people with bromides or other sedatives; pharmacists can, on occasion, advise inquirers accordingly. Homes for the aged are costly to build; I have seen £1,000 per person mentioned as an average price. Assuming, however, that existing buildings can be economically adapted, there remain the problems of combining privacy with social intercourse and of seeing that the inhabitants have sufficient interests. Public administration of their homes is not enough. Voluntary efforts, already in operation, will, I hope, be increasingly used. Patients who have become a burden on younger relatives might learn the advantages of a life on these lines.

James's Analeptic Pills

Your selection on p. 592 from "Echoes of the Past" brings before us a proprietary medicine of more than ordinary interest. As Dr. Robert James patented it with an explicit declaration of contents, it is not easy to see why Henry Beasley, in "The Druggist's General Receipt Book," gave three formulas for it, all differing to some extent from the original specification. It happens that this nostrum has gained what may be called a secondary immortality in the Diary of Frances Burney. One day in 1779, when she was staying at Brighton, a General in the party preferred, as was his custom, to read a newspaper, with audible comments, rather than to play whist or to watch others playing it. On going through the same journal methodically for the second time, one of his exclamations evoked a remark from a Mr. Hamilton. The Diary continues: "'You have great variety there,' cried Mr. Hamilton drily; 'but I think, Mr. B—y, you have read us nothing about the analeptic pills!' Though we all smiled at this, the General, unconscious of any joke, gravely answered, 'No, Sir! I have not seen them yet, but I daresay I shall find them by and by!' And, by the time the next game was finished, he called out, 'No! I see nothing of the analeptic pills today, but here's some Samaritan drops!'"

BRANCH MEETINGS

STAFFORD

Work of a Pricing Bureau

A WELL-ATTENDED meeting of the Stafford Branch of the Pharmaceutical Society was held in Stafford on November 12, Mr. H. Eymers in the chair. Miss E. M. Holmes (supervisor, South-west Lancs and Cheshire Pricing Bureau) described the work of her bureau.

BURNLEY

Make-up Lecture and Advice

At a meeting of the Burnley Branch of the Pharmaceutical Society held in Burnley recently, Miss Roma Smith (Yardley & Co., Ltd.) gave an address on "Skin Care and the Art of Make-up" followed by a practical demonstration. The audience of about 130 persons comprised members, their wives and lady shop assistants. Many of the ladies present were interviewed by Miss Smith who analysed their complexions and gave to each an individual make-up chart.

NEWCASTLE

Indignation at Adverse Publicity

THE Newcastle and Northumberland Branch of the Pharmaceutical Society held an emergency meeting in Newcastle on December 7 to discuss the statements made by Mr. F. C. Wilson at the Durham Branch during the previous week, and which were reported in newspapers on December 4 (see *C. & D.*, December 12, p. 589). Sixty-five members attended. Many of those present expressed "extreme indignation" at the comments which were described as most injurious to pharmacy, pharmacists and to unqualified assistants. It was unanimously decided that a severe vote of censure should be imposed on Mr. Wilson, on the Council of the Society and on the Press relations officer who was responsible for issuing the statements to the Press.

NORWICH

Pharmacopœial Drugs

At a meeting of the Norwich Branch of the Pharmaceutical Society, held in Norwich on November 3, Mr. A. R. G. Chamings (Ciba Laboratories, Ltd.) gave an address on "New Drugs and the B.P., 1953." Mr. CHAMINGS dealt with recent developments in hormone therapy and organotherapeutic agents mentioning sex hormones, members of the corticosteroid group, recently introduced long-acting forms of insulin and official preparations used in blood dyscrasias (cyanocobalamin, folic acid, heparin and ethyl biscoumacetate). Recent discoveries concerned with vitamins, antibiotics, curare and similar agents, hypotensives of botanical origin and khellin were treated under the heading of recent developments with drugs of plant origin. Amongst a wide range of synthetic drugs which had been developed during the past few years the following were particularly referred to: Hypotensives (hexamethonium and Apresoline), anti-tuberculosis drugs, PAS and isoniazid and combinations of those drugs with streptomycin.

BRAINS TRUSTS IN LONDON

Western Association

THE Western Pharmacists' Association, holding its first "brains trust" on December 9 was fortunate in its question Master (Mr. W. F. Wilkinson) who enlivened the evening with his humorous comments, and its team, comprising Dr. A. Benjamin (president, 1953, of the Homœopathic Congress); Miss D. Murgatroyd (superintendent, South-eastern Pricing Bureau); Mr. H. W. Tomski (pharmaceutical statistician); and Mr. T. D. Whittet (chief pharmacist, University College Hospital). The separation of commercial and "pure" pharmacy was dealt with by Mr. Tomski, who said the limitation of pharmacies would make the purchase price of businesses too high for the individual pharmacist, who would come to be eliminated by the multiples. Payment to pharmacists would need, too, to be altered. Mr. Whittet pointed out that the educational system was changing. Specialisation and new techniques made the pharmacist an expert in his field, and he would become an adviser to medical practitioners. Mr. Whittet agreed that the system of payment would have to be altered. Miss Murgatroyd stressed that the present system of payment was due to commercialism in pharmacies subsidising the National Health Service. Dr. Benjamin, dealing with questions relating to homœopathy, said that homœopathy was the treatment of the individual rather than the disease—a building-up of the patient's resistance to infection. He insisted that treatment of an acute infection would not be ignored, but homœopathy could always be applied as parallel treatment. The removal or covering up of a proprietary label would be prohibited under the new Foods and Drugs Act, and Dr. Benjamin thought that it might be a good thing in certain circumstances for the patient to know what was being prescribed. In any case there were times when a warning about the treatment being tried, and the danger of side-effects, ought to be emphasised. Miss Murgatroyd thought the public were becoming hypochondriacs and that the new legislation would not improve matters. Uniformity in dispensing was emphasised by Mr. Whittet and Mr. Tomski as being essential. The teaching of prescribing and pharmacy to the medical profession was discussed, and Mr. Whittet was hopeful that the Gower report would improve the situation. Other questions covered the British Pharmaceutical Conference, the quality of service rendered by doctors and pharmacists, and whether a proficiency test should apply to aspirants to Pharmaceutical Committees.

North London Association

THE following questions were submitted to a "brains trust" comprising Messrs. H. Noble (secretary, National Pharmaceutical Union), Norman Dewey (home sales manager, Allen & Hanburys, Ltd.) and C. L. Sargent (pharmaceutical section, Ministry of Health) at a recent meeting of the North London Pharmaceutical Association.

Many retailers feel that C.F. manufacturers should include the C.F. symbol as part of the design of the pack. Why do not the main manufacturers do this? DEWEY: Labels are usually drawn up by artists to a design specific for a particular manufacturing house, and it would not be easy to incorporate the symbol. "Does the chemist not know who are his friends?"

In a recent issue of "Prescribers' Notes" it was stated that a medical student went up for his finals unable to give the official name of a single barbiturate suitable for use as a hypnotic. Is that not a condemnation of the present system of teaching? DEWEY: Those references certainly show the need for a closer liaison between doctor and chemist.

Is action similar to that taken by the N.P.U. against the products of a particular firm anticipated against (a) those firms who have some of their products on and others off the C.F. list? (b) firms who refuse to sell their veterinary products to pharmacists? NOBLE: The reputation of one product affected was built up as a "chemists-only" line; other manufacturers have always retained a freedom of action and were not "C.F. only." Chemists have not been asked to refuse sales but to withhold sales support by non-display, etc. A veterinary products subcommittee of the N.P.U. and the Pharmaceutical Society was discussing sales of veterinary products. DEWEY: There is an impression abroad that if a firm has some of its products on the C.F. then all of its products should go on, but only specialities suitable for human use are eligible.

Why is it necessary to have a T.S.A. licence for the preparation of penicillin injections? Surely all pharmacists are competent for that purpose. SARGENT: All chemists are competent to do the work but the Therapeutic Substances Regulations requires a licence. No elaborate alterations or equipment are necessary, however, for the licensee. NOBLE: For my own information, do chemists dispense penicillin tablets in bottles? (Replies showed some variation in procedure).

Is it a fact that the prices for drugs in the Drug Tariff include the container charge? DEWEY: The container charge for quantities below 500 gm. is absorbed by the manufacturers, as the resulting cost to them is less than cleaning returned containers.

Is the testing scheme not derogatory to professional people? NOBLE: The chemist has two safeguards: he can insist on an independent analysis, and the findings are considered by a committee on which pharmacists are represented. The N.P.U. has no wish to have the scheme withdrawn, though modifications might be desirable.

Why do some firms specify in their literature or in the Press the particular retailers from whom their product may be obtained? NOBLE: This does occasionally happen when a new product is launched. It provides the manufacturer with a certain and wide distribution. Reactions from retail chemists would produce a greater effect than any official objections.

SUB-STRENGTH PENICILLIN TABLETS

Birmingham City Analyst's Findings

OUT of eighty-two samples of oral penicillin tablets taken by the Birmingham city analyst (Mr. H. H. Bagnall) (see p. 607), during the second and third quarters of 1953, thirteen (nearly 16 per cent.) were found incorrect.

Of the eighty-two samples, nineteen did not comply with the B.P. requirement that the average number of units of penicillin per tablet should be not less than 90 per cent. of the prescribed number but the analyst adopted as a practical working standard a limit of 80 per cent., and twelve samples did not comply with the lesser figure. Of the twelve, four were 22-27 per cent. deficient; four 33-62 per cent.; and four ("completely useless") 90-100 per cent. His inference is that there is one chance in ten of purchased oral tablets of penicillin being 30 per cent. or more deficient in penicillin; and one chance in twenty of a patient being supplied with tablets entirely devoid of any therapeutic value.

Wholesalers' Samples

By contrast, the analyst found samples purchased direct from wholesalers to be entirely potent. In many examples the whole or part of the excess of penicillin originally included by the makers was still present. Only twenty-two out of the eighty-two samples submitted were in the makers' original sealed containers. The other sixty "were presumably taken from manufacturers' containers holding more than ten tablets." Deficiencies of 22 per cent., 33 per cent., and 42 per cent., respectively, were encountered in three samples supplied in sealed tubes. It was impossible to say whether those deficiencies were due to faults in packaging or to storage by the pharmacist in unsuitable conditions, but certainly the greatest loss from a sealed tube was 42 per cent., and the four samples from which the penicillin had almost or quite disappeared were from broken bulk.

Twenty-seven samples were supplied in stoppered containers other than the original; two of them were 93 per cent. deficient in penicillin. Eight of thirty-three specimens dispensed in cardboard boxes were defective. One pharmacist dispensed tablets of twice the strength ordered. Three others provided containers that had previously held strongly-smelling tablets of another preparation. The tubes had not been washed out and dried before re-use. Another pharmacist handed over the counter the cardboard outer container of a proprietary tablet, inside which were found four tablets so wet that they had stuck to each other and to the carton; all the penicillin had disappeared.

A Misfit

One sample contained twelve tablets instead of ten; another four instead of five. The twelve tablets were dispensed in one of the strongly-smelling tubes previously mentioned. It comfortably held ten tablets. Consequently the stopper

did not fit properly when it contained twelve tablets.

Only one shop was revisited. On both visits the prescription was for ten tablets, each containing 100,000 units. The first sample supplied consisted of ten tablets of 200,000 units, with directions to take half a tablet at a time. The tablets were contained in a large bottle, say to contain fifty tablets, and each tablet contained only 7,000 units. A month later the same pharmacist supplied the tablets in a screw-top bottle that had previously contained some unknown drug, and the new label was stuck on top of the original: the tablets were 93 per cent. deficient in penicillin.

A sample that retained only 8 per cent. of its original potency of 100,000 units per tablet was supplied in a cardboard pill-box containing cotton wool, to which the contents had partially adhered because of their damp condition. The tablets were of a bright yellow colour instead of the usual white.

Five of the eight samples in which deficiencies of from 22 to 25 per cent. were detected, were white, hard and smooth. One was supplied in the original sealed tube, but contained only 58,000 instead of 100,000 units of penicillin per tablet. The other four were dispensed in cardboard containers and were deficient in 23, 27, 27 and 52

per cent. respectively of the potency demanded. The remaining three were discoloured and were 22, 23 and 62 per cent. deficient, the 62 per cent. deficiency being in tablets supplied in a cardboard box. The facts have been reported by the analyst to the Minister of Health and to the local Executive Council, and it is stated that "the necessary steps have been taken to remedy the existing situation."

Regional Laboratories Advocated

His experiences have led Mr. Bagnall to advocate the setting-up of six or more regional laboratories equipped with all modern means for examining the many new drugs listed in the British Pharmacopoeia and not yet within the purview of the public analyst. He holds that the approach to sampling should be fundamentally altered. Unsuspected deterioration or decomposition can, he holds, only be traced by sampling articles in groups; "snap" sampling of well-known preparations would still be necessary. It would be desirable, says Mr. Bagnall, that the sampling officer should have some knowledge of pharmaceutical problems; "in fact qualifications of the same type as those possessed by the inspectors appointed by the Pharmaceutical Society would constitute an asset of great value."

[Editorial comment, p. 613.]

PUBLIC HEALTH IN 1952

Ministry reports Progress

THE report of the Ministry of Health on the state of the public health for the year 1952, just published (H.M. Stationery Office, 6s. 6d.) shows on the whole, progress on the disease front. An exception to that was in cancer, in which deaths rose to a high record of 87,642 an increase of 1,562 over the previous year. Both sexes contributed, males being slightly in excess. In males the increases were due to cancer of the lung and of the blood and lymphatic tissues. The number of deaths from cancer of the respiratory organs now approximates that from stomach, being 14,218 and 14,409 respectively. In tuberculosis, for the fourth successive year there was a decline in mortality, and deaths reached a new low level of 10,585, giving a rate of 240 per million living (respiratory 212, non-respiratory 28). Mortality has fallen by 59 per cent. in the past fourteen years and by 52 per cent. in the past four years. The Chief Medical Officer of the Ministry comments "The present picture is promising but we shall do well to remember . . . that the solution of one set of problems may give rise to others. . . . The decline in mortality means prolongation of life and this in turn increases the number of potential infectors, some of whom may be harbouring strains of bacilli which have become resistant to modern remedies."

Among infectious diseases the number of cases of diphtheria shows a

further decline (376 cases and thirty-two deaths against 664 and thirty-three respectively, in 1951) though the tiny hard core of deaths ascribed to the disease still persists. The case mortality for diphtheria has risen from five per cent. to 8.5 per cent. and that is the only recent instance of a rise in the case mortality of one of the common diseases of childhood. "This is another pointer to the importance of immunisation as a means of preventing untimely death from diphtheria, the case mortality rate in immunised children being only 1.1 per cent. whereas in those who have not been immunised it was 9.9 per cent. The downward trends in the case mortality of scarlet fever, measles and whooping cough have continued, it is noted.

In 1952 there were 3,902 cases of poliomyelitis against 2,609 in the previous year, but notifications were still lower than the annual average since polio became prominent five years ago. The case mortality again declined.

A baffling series of outbreaks of paratyphoid fever occurred in South Wales. Many of them appeared to be associated with the eating of cream-filled confectionery. Another substantial fall occurred in the number of new venereal-disease patients. For syphilis 891 men and 462 women attended clinics for the first time as against 1,498 men and 774 women in 1951.

THE WEEK IN PARLIAMENT

By a MEMBER OF THE PRESS GALLERY, HOUSE OF COMMONS

ON December 7, Mr. Heathcoat Amory (Minister of State, Board of Trade) moved approval of the Import Duties Exemptions No. 5 Order, which reimposed a 10 per cent. *ad valorem* duty on the import of sulphuric acid and oleum from November 25. The duty, he recalled, had been suspended in the world shortage in 1951. In changed circumstances, manufacturers had requested that the duty should be restored. The motion was agreed.

Purchase Tax

MRS. E. L. WHITE asked the Chancellor of the Exchequer on December 8 what reply he had given to the representations of the eight manufacturers' associations which had submitted proposals for purchase tax rebates on certain classes of goods.

MR. R. A. BUTLER circulated the reply, which informed the questioner that the proposals would be carefully considered.

MRS. WHITE further asked whether the reply included any way of avoiding the dislocation of trade that now occurred from the drying up of orders prior to the Budget.

MR. BUTLER: The Committee appointed to look into this difficulty could not easily find a solution, and I find it difficult to find a solution myself.

Vaccination Complications

MR. IAIN MACLEOD gave MR. S. P. VIAN on December 8 the following information concerning deaths in children up to age five years who had died of vaccination complications:—

Year	Death certificates with mention of vaccinia, etc.	Deaths ascribed to vaccinia, etc.
1938 ...	6	5
1939 ...	1	1
1940 ...	7	6
1941 ...	4	4
1942 ...	5	3
1943 ...	4	4
1944 ...	9	8
1945 ...	6	5
1946 ...	3	1
1947 ...	10	6
1948 ...	6	4
1949 ...	1	1
1950 ...	—	—
1951 ...	6	4
1952 ...	3*	3*

* Includes one infant who had not herself been vaccinated.

Iron Lung (Northern Ireland)

MR. R. A. BUTLER (Chancellor of the Exchequer) told MR. J. BEATTIE on December 8 that temporary importation arrangements that the questioner had mentioned could not be applied to medical appliances such as iron lungs that were being permanently imported into Northern Ireland.

Vivisection Experiments

SIR DAVID MAXWELL FYFE (Home Secretary) told MR. PETER FREEMAN on December 10 that, because of a clerical

error, over 4,000 experiments relating to other animals were wrongly returned in the Annual Return of Experiments on Living Animals as relating to dogs. The correct figure for experiments carried out on dogs without anaesthesia in 1952 was 1,147, which was 348 less than in 1951. Most of the cases were of inoculation in the course of research into the causation and treatment of canine virus diseases such as hard-pad and distemper, and the effects of various insecticides and anti-parasitic preparations.

Scottish Rents Bill

The Housing (Repairs and Rents) (Scotland) Bill was read a second time on December 9.

Bills Presented

On December 10 the following Bills were presented:

LANDLORD AND TENANT BILL, which would, among other things, "enable tenants occupying property for business, professional or other purposes to obtain new tenancies in certain cases."

DEVELOPMENT OF INVENTIONS BILL, "to extend to ten years the period during which advances may be made to the National Research Development Corporation out of the Consolidated Fund..."

N.H.S. Staff Discipline

MR. IAIN MACLEOD (Minister of Health) told MR. E. A. HARDY on December 10 that although it was true that there was as yet no Whitley agreement on disciplinary cases arising under the National Health Service, full guidance had been issued to employing authorities over two years previously.

B.C.G. Vaccine Production

MR. P. F. REMNANT asked the Minister of Health on December 10 which firm had been given approval to produce B.C.G. vaccine and what negotiations were taking place.

MISS P. HORNSBY-SMITH (Parliamentary Secretary to the Ministry of Health): The manufacture of B.C.G. vaccine would require a licence under the Therapeutic Substances Act, 1925. No licence has yet been granted but one firm has had preliminary consultation with the Minister's officers.

Mercury in Teething Powders

MR. S. T. SWINGLER asked the Home Secretary on December 10 if he had considered the case, details of which had been supplied to him, in which a coroner's jury returned a verdict that a baby's death was caused by mercury poisoning, following an innocent overdosage of teething powders; and if he would take steps to ensure that such powders were sold to the public only in correct doses.

SIR DAVID MAXWELL FYFE (Home Secretary): According to a report in this morning's Press the company in

question has decided that no further powders containing calomel shall be put on the market, and that a powder free from mercury shall be produced instead. I am having inquiries made.

MR. SWINGLER commended the action of Messrs. Steedman & Co. in voluntarily withdrawing the calomel teething powder, and asked the Minister if he would prohibit the use of "these substances."

SIR D. MAXWELL FYFE repeated that he was having inquiries made.

Contracts for Ministry

MR. H. NICHOLLS asked the Minister of Health on December 10 whether he had yet received the findings of the Industrial Court in regard to the Amalgamated Engineering Union allegations against the Medical Supply Association, Ltd.

MR. IAIN MACLEOD (Minister of Health): The court found that, in the execution of my Department's contracts, the company were not—at any time material to the reference—in breach of the requirements of the Fair Wages Resolution of the House.

LEGAL REPORTS

Injunction Against Picketing a Pharmacy.—In the High Court, Dublin, Eire, on December 9, Mr. Justice Dixon granted an application made on behalf of the Esplanade Pharmacy, Ltd., Albert Avenue, Bray, co. Wicklow, for an injunction to restrain James Larkin (secretary of the Workers' Union of Ireland) and two other members of the Union, from picketing the pharmacy. The Union's case was that a trade dispute existed, and that they were entitled to picket under the Trade Disputes Act, 1906. The judge held that, while there was a dispute, it was not of such a nature as to bring it within the Act.

Granted Absolute Discharge.—Appearing on remand at Clerkenwell magistrates' court (see *C. & D.*, November 28, p. 535) on December 9, Frank Harold Askew, M.P.S., Hendon, said he was ashamed of himself for the betrayal of the trust put in him by his employers and for the disgrace he had brought upon his family. He was told by the magistrate "I will add nothing further to the punishment which I feel sure you are undergoing at the moment." Askew had previously admitted stealing platinum wire worth a total of £430 from his employers (Boots, Ltd.) and other firms. A police officer said on December 9 that he understood complete restitution had now been made by Askew, whose father had travelled down from Liverpool to hear the decision of the Court. Askew said he had sold his car and obtained money from a superannuation fund and from friends in order to make restitution. The general manager of Messrs. Boots' distribution warehouse at Nottingham said that Askew was not being retained. The magistrate said it was lamentable to see a man of defendant's good character, reputation and connections in that position, but "I am satisfied that you are not really a criminal."

PERSONALITIES

MR. H. BAINES, D.Sc. (Lond.), F.R.I.C., Hon. F.R.P.S., author of the

Modern Course of Photographic Studies of which the second article appears this week (pp. 619-21) has been elected a Fellow of the Institute of British Photographers. Dr. Baines is a past-president of the Royal Photographic Society and of

the Camera Club and a vice-president of the Royal Institute of Chemistry. He is deputy director of research, Kodak, Ltd.

MR. E. L. BUSH, who has been appointed managing director of W. J.

Bush & Co., Ltd. (see C. & D., December 12, p. 582) is a grandson of the founder of the company, and the second son of the late Mr. James Mortimer Bush who was chairman and managing director from 1903 to 1941. Mr. Bush joined the company in 1920 and a

thorough training in its activities was gained by his being progressively associated with the work of the various departments. Over a period of years he had a schooling in the manufacturing processes conducted at the three main

United Kingdom factories. He was appointed a director in 1935. He has made extensive tours of the company's Far Eastern agencies and Bush companies in the United States and Canada, of which also he is a director. During the company's centenary year, 1951, he visited the company's establishments in South Africa, Australia and New Zealand and in the early part of 1953 was present at the opening ceremony of the new factory of W. J. Bush & Co. (Canada), Ltd., at La Salle, Montreal. Mr. C. R. Woods who has been appointed a director of the company (*ibid.*) joined the company in 1914. He became manager of the country sales department in 1922. Mr. Woods' association with the sales activities of the company has continued ever since, and in 1939 he was appointed general sales manager. In 1935 that on the

initiative of Mr. Woods the policy of specialised study of the requirements of the individual trades which the company serves was begun, a policy which under his guidance has continued ever since.

DEATHS

FARRAR.—On December 3, Mr. William Edward Farrar, M.P.S., Iregama, Longlands, Dawlish, Devon, aged sixty-three.

MALLINSON.—On November 28, Mr. Fred Mallinson, M.P.S., 397 Heysham Road, Morecambe, Lancashire, aged eighty-four.

MARIES.—On November 23, Mr. Joseph Davenport Maries, M.P.S., 15 North Street, Portslade, Sussex.

POOLE.—On December 3, Mr. Arthur Walter Poole, M.P.S., 3 Sydney Road, Richmond, Surrey, aged eighty.

WHIPPLE.—At his home in Highgate, London, on December 13, Mr. Robert Stewart Whipple, aged eighty-two. Mr. Whipple had a distinguished

career devoted to scientific instruments. In 1898, he became private assistant to Mr. (later Sir) Horace Darwin (founder of the Cambridge Scientific Instrument Co.) and was appointed manager and secretary of the company at the end of that year. In 1909 he was made a joint managing director of the company, a post which he held until his retirement in 1935. From 1939 to 1949 he was chairman of the directors. He was twice president of the Scientific Instrument Manufacturers' Association, president of the Optical Society in 1920-21, treasurer of the Physical Society for ten years, and vice-president of it for another three years.

WHITTINGSTALL.—On November 19, Mr. Ernest Edward Whittingstall, M.P.S., Ashleigh, Egginton Road, Etwell, Derby, aged seventy-four.

WORTHINGTON.—At 29 St. Luke's Road, Blackpool, on November 30, Mrs. Gwendolen (née Adamson) (wife of Mr. A. E. Worthington, M.P.S.).

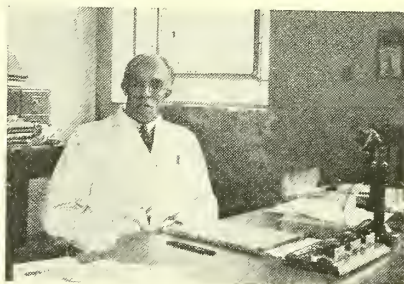
BIRMINGHAM CITY ANALYST

His Career and Outlook

MR. H. H. BAGNALL, B.Sc., F.R.I.C., whose most recent report as Birmingham city analyst is dealt with on p. 645 is well known, at least by name, to pharmacists throughout the country. He was appointed to his present post in 1929 in succession to Mr. J. F. Liverseege, Ph.C., F.I.C., with whom he had worked previously, first as an assistant, 1914-15, and after a period as an analytical and works chemist with Chance & Hunt, Ltd., Oldbury (now Imperial Chemical Industries, Ltd.), and as analytical chemist with the Birmingham Gas Department, as his senior assistant analyst, 1920-26. Mr. Bagnall acknowledges his debt to his old chief and counts himself fortunate to have had the benefit of Mr. Liverseege's careful training and meticulous insistence on the highest standards. His predecessor's pharmaceutical background was, thinks Mr. Bagnall, a corrective to the then prevailing preoccupation with the sampling of foods to the comparative neglect of drugs.

From 1926 to 1929 Mr. Bagnall was Salford city analyst, and while in that position was responsible for several important prosecutions, including the first case in Britain involving vitamin A deficiency (a cod-liver oil tablet with no vitamin content (C. & D., 1928, I. 470)). While he has been Birmingham city analyst, the work that has had to be done for Corporation departments has gradually increased. The analytical department moved into modern laboratories in 1931 with a staff of six, now increased to sixteen. The number of yearly samples has increased from 6,000 in 1931 to well over 9,000. Mr. Bagnall has forthright views on his functions as a public analyst. Since he has been with Birmingham Corporation he has observed a great change in methods of distribution. The pharmacist has become more and more a distributor of prepacked materials, for which his main responsibility is the provision of

efficient storage. The conditions under which sampling and analysis are carried out should therefore, in Mr. Bagnall's view, be modified. During the past two or three years he has tried to find out what happens to pre-packed foods and drugs between manufacture and sale, and has adopted the method of taking a series of samples of one product, covering a high proportion of retailers in one area. He holds that the public analyst must be as well equipped as the manufacturer, and sponsors the idea of a regionalised (not nationalised) laboratory service.



Mr. H. H. Bagnall, B.Sc., F.R.I.C.

vice. He is also an advocate of publicity for the public analyst's findings, but considers that any resulting correction of faults, whether due to carelessness or to the inherent instability of the article sold, should be brought about by public opinion. "I have no partiality," he says, "for prosecution except in extreme cases." Mr. Bagnall does not believe that drugs should be separated from foods for the purposes of the Food and Drugs Act or that the work of the public analyst should conflict with the National Health Service drug testing scheme. It is his opinion that there is a good deal of unexplored territory in the British Pharmacopoeia, 1953, which he hopes eventually to be able to exploit.



Mr. E. L. Bush



Mr. C. R. Woods

COMPANY NEWS

THOMPSON & CAPPER WHOLESALE, LTD.—Mr. J. Hilton Thompson, M.P.S., has been appointed managing director.

LEWIS & PEAT, LTD.—By a two to one margin on a poll vote Messrs. A. V. Nicolle, T. Brown and R. W. A. Caine have been appointed to the board recently.

MONSANTO CHEMICALS, LTD.—Mr. D. R. Mackie, a director, and at present also general manager of sales, has been appointed commercial director of the company from January 1, 1954. The position of general manager of sales is to be discontinued, and the responsibilities of that office transferred to three sales controllers (see under Business Changes).

New Companies

P.C. = Private Company; R.O. = Registered Office
BRIAN DOBSON (CHEMISTS), LTD. (P.C.)—Capital £1,000. To carry on the business of manufacturing and general chemists, etc. Directors: Brian Dobson, M.P.S., and Jessie Dobson. R.O.: 17 Station Street, Meltham, Huddersfield.

J. ROGERS (LABORATORIES), LTD. (P.C.)—Capital £100. To carry on the business of manufacturing and dispensing chemists and druggists, etc. Directors: Joseph R. Forsyth and Mary M. Forsyth, 218 Carlton Road, Gidea Park, Romford.

LIONEL G. BURTON, LTD. (P.C.)—Capital £3,000. To carry on the business of manufacturing and general chemists, etc. Directors: Lionel G. Burton, M.P.S., and Gladys V. Burton, 60 Pyrlas Lane, Loughton, Essex. R.O.: 8 Queen Street, London, E.C.4.

MEDICA, LTD. (P.C.)—Capital £100. To carry on the business of wholesale or retail chemists, druggists and drysalters, etc. Subscribers: George W. Russell and Edith G. Outeridge. The first directors are to be appointed by the subscribers. Solicitors: Stoncham & Sons, 108A Cannon Street, London, E.C.4.

E. A. NEILL, LTD. (P.C.)—Capital £5,500. To acquire the business of a chemist and druggist, formerly carried on by E. A. Neill, M.P.S., at Penrhyn Road, Colwyn Bay, and at Rhos Road, Rhos-on-Sea. Directors: Ernest A. Neill, Kenneth E. Neill and Kenneth M. Egan, M.P.S. R.O.: 22 Penrhyn Road, Colwyn Bay.

LEWIS SMITH (MANUFACTURING CHEMISTS), LTD. (P.C.)—Capital £3,000. To carry on the business of wholesale, retail and manufacturing chemists and sundriesmen, etc. Directors: Frederick L. Smith, M.P.S., Alison M. Smith and Irene M. Harding. R.O.: 74 Commercial Road, Hereford.

E. DERRICK, LTD. (P.C.)—Capital £500. To carry on the business of manufacturers and dealers in animal gland preparations and animal by-products of all kinds, chemicals, etc. Subscribers: Edward G. Derrick (also first director), and Iris V. Derrick. R.O.: 18 Hartnoll Street, Holloway, London, N.7.

OVERSEAS MEDICINAL PRODUCTS, LTD. (P.C.)—Capital £100. To enter into an agreement with Medicinal Chemicals, Ltd., and to carry on the business of research and manufacturing chemists, etc. Directors: James H. Dennis, M.P.S., and Peter E. De Rees. R.O.: 36 Victoria Street, London, S.W.1.

COMMONWEALTH CHEMICAL MANUFACTURERS, LTD. (P.C.)—Capital £100. To carry on the business of manufacturers, wholesalers and distributors of chemical products of all kinds, etc. Directors: Ronald A. Watts, Watts Chemicals, Ltd., George P. Cockhill, Charles W. Hill and Reginald C. Ray. R.O.: 34 Ludgate Hill, London, E.C.4.

BUSINESS CHANGES

MRS. MARGARETTA M. GLEESON, Ph.C.I., has opened The Abbey Pharmacy, Abbey Street, Wicklow, co. Wicklow.

MR. JACK W. HEWITT, M.P.S., has taken over the pharmacy of Mr. T. Young, M.P.S., 203 High Street, Gorleston, Great Yarmouth, Norfolk. Mr. Young has retired.

MR. JOHN REED, M.P.S., has taken over the pharmacy of Miss M. W. Boland, M.P.S., at 108 Laygate, South Shields, co. Durham. Mr. Reed is also in business at 234 Stanhope Road, South Shields.

Appointments

BECCLES CO-OPERATIVE SOCIETY, LTD., Smallgate, Beccles, Suffolk, have appointed Mr. L. A. Hibberd, M.P.S., their pharmacy superintendent.

ROUSSEL LABORATORIES, LTD., 845 Harrow Road, London, N.W.10, have promoted Mr. R. H. Henriksen, Ph.C., their deputy general manager. Mr. Henriksen joined the company in 1950 as sales manager.

BENJAMIN LEES & CO., LTD. (Sales department: Charles Newsome), manufacturers and bleachers of surgical dressings, Ashley Mill, Westwood, Oldham, have appointed Mr. C. A. Cadwallader, M.A., B.Sc., A.R.I.C., technologist.

BIOREX LABORATORIES, LTD., 47 Exmouth Street (Market), Rosebery Avenue, London, E.C.1, have appointed Mr. E. Rowbottom their representative in South London; and Mr. A. C. Weston, M.P.S., their representative in North London.

MONSANTO CHEMICALS, LTD.—The following appointments have been made with effect from January 1, 1954: Messrs. E. L. Pixton, D. C. M. Salt and J. S. Hunter, sales controllers, and Mr. W. M. Thompson, director of purchases.

GLYCERINE, LTD., Unilever House, Blackfriars, London, E.C.4, have appointed Mr. S. W. Wakefield their representative in the North of England from January 1, 1954. Mr. J. H. Owen, who has represented the company in that territory for twenty-nine years is retiring at the end of December.

INQUESTS

Overdose of Quinine.—A verdict of misadventure following a self-administered dose of quinine tablets taken without knowledge of the possible effect was recorded at an inquest at Armagh recently on a twenty-eight-year-old woman. A house surgeon at Armagh hospital, to which she was taken, said that in her opinion the woman died from cardiac failure following the overdose.

Cantharidin in Bait.—A verdict of "death by misadventure" was recorded at Chesterfield recently, at the inquest on a man who died after he had been preparing fishing bait and using cantharidin. At the inquest the man's widow said that her husband told her he had been mixing the bait with the cantharidin when he cut his finger. It bled and he sucked it but he did not think what he was using for the bait was poisonous. Death took place in hospital about two days later.

Child's Liking for Aspirin.—At an inquest at Leeds, recently, on a two-year-old girl, a verdict was recorded in accordance with medical evidence that death was caused by aspirin poisoning. The child's father said the child had been given half an aspirin tablet at previous times when unwell and had shown a liking for the tablets. She was clever at getting tops off bottles. The child had apparently gained access to a bottle containing a few aspirin tablets and had taken a number of them.

Another Mercury-powder Death.—At an inquest held at Stoke-on-Trent on a nine-month-old baby who had died from pink disease and mercury poisoning after being given mercury-containing teething powders, the coroner referred to the fact that he had dealt with a similar case the previous week (*C. & D.*, December 12, p. 586). The child's mother said that her baby had been given twelve powders over several weeks. A representative of the makers of the powders (John Steedman & Co.) said that the company had ceased to include calomel in the teething powders that they manufactured (*ibid.*, p. 585), and the coroner said that that announcement would come as a relief to the doctors concerned in the cases. The coroner recorded a verdict that death resulted from pink disease caused by chronic mercurial poisoning through teething powders to which she was susceptible and through misadventure.

WILLS

MR. T. L. BENNETT, M.P.S., 162 Mill End Lane, Stockport, Ches, left £9,539 (£8,560 net).

MR. F. A. BOYS, M.P.S., 85 Highgate Road, London, N.W.5, left £2,123 (£604 net).

MR. O. GILLIBRAND, M.P.S., The Old House Pharmacy, High Street, Billingshurst, Sussex, left £14,325 (£14,117 net).

MR. W. HAMILTON, M.P.S., 1 Boswall Gardens, Edinburgh, left £2,378.

MR. J. F. MILLER, M.P.S., Apsley House, Mottram Road, Stalybridge, left £150,174 (£134,946 net).

MR. J. MORRISON, M.P.S., 18 St. Johns Road, Isleworth, Middlesex, left £1,196 (£1,154 net).

MR. A. F. NICHOLLS, M.P.S., Springfield, Christow, Devon, left £2,132 (£2,065 net).

NEW PRODUCTS AND PACKS

Chloroquine with Diiodohydroxyquinoline.—Pharmaceutical Specialities (May and Baker), Ltd., Dagenham, announce the availability of Nivembin brand chloroquine/diiodohydroxyquinoline association in tablets each containing 65 mgm. chloroquine sulphate (equivalent to 50 mgm. chloroquine base) with 300 mgm. diiodohydroxyquinoline. The product is claimed to provide a complete medical treatment for uncomplicated amoebiasis, irrespective of whether the predominant clinical manifestations are hepatic or intestinal. For most patients a 1-3 weeks' course is sufficient to eradicate the parasites. Nivembin is issued in containers of fifty and 500 tablets.

Nail-beauty Preparations.—Rimmel (Distributors), Ltd., 70 Park Lane, London, W.1, have produced the nail beauty cabinet illustrated, which contains the following new Rimmel products: nail strengthener, cuticle remover, nail-polish stick, nail-white pencil, and nail buffer. The series has been introduced to give a "natural"



look to finger nails, and to counteract the harm done to nails by the present widespread use of soapless detergents. The nail-polish stick has been formulated as a nourishing agent as well as for its polishing properties. All the products in the cabinet are supplied individually and they are now available to Rimmel stockists. To launch the series, Messrs. Rimmel are making a special bonus offer linked with window and counter displays (details from the company).

Massage Cream.—On January 1, Cortiforte Laboratories (Harold Godfrey, M.P.S.), 108 Horseferry Road, Westminster, London, S.W.1, are introducing Cortiforte massage cream, mild, for use on skins too sensitive for the firm's deep-penetrating massage cream. Messrs. Cortiforte are discontinuing their Cortiforte balm, as the new product contains the same ingredients plus ephedrine hydrochloride.

New Lipstick Colours.—MAX FACTOR, HOLLYWOOD AND LONDON (SALES), LTD., 16 Old Bond Street, London, W.1, are launching a new lipstick colour, "riding-hood red" (a "clear, glowing red"). The new lipstick will be on sale from February 1, 1954.—YARLEY & CO., LTD., 33 Old Bond Street, London, W.1, announce a new lipstick colour "rose coral," available to chemists on January 1, 1954.

Standardised Urine Ketone Test.—The Acetest tablets illustrated (top right) contain sodium nitroprusside, di-

sodium phosphate aminoacetic acid and lactose, and are manufactured by Miles Laboratories Ltd., Bridgend, South Wales, and distributed by Don S. Momand, Ltd., Albany Street, London, N.W.1. They have been used routinely in the United States and Canada for some years, but manufacture in Britain was delayed until the views of medical practitioners had been obtained on the degree of sensitivity desired in such a tablet test. The almost unanimous view was that the test should be less sensitive than Rothera's and should, if possible, avoid the physiological traces so often experienced with that test. The majority asked for a test that would give a warning of diacetic acid before the ferric chloride test gave a positive result on the same specimen, and one that would avoid false positives due to salicylates. The last-named requirement has been met. Trials carried out in hospitals and pathological laboratories confirm, so far, that the other two requirements have also been fulfilled. When the reading is taken in thirty seconds the test is not as sensitive as Rothera's, yet it detects diacetic acid at a lower concentration than Gerhard's ferric chloride test (as with the two existing tests for ketone bodies, the colour obtained with positive specimens on Acetest tablets continues developing). When the test is carried out in hospitals side by side with a test for urine-sugar using Clinitest tablets a screening technique may be

employed. One drop of urine specimen is placed on each tablet (previously set up opposite the urine specimens and in line with the test tubes for Clinitest;



the dropper is rinsed with water between the tests). The timing factor is ignored, and when the urine-sugars have been read, any Acetest tablets showing a mauve colour lead to a re-check, taking the reading at the end of thirty seconds. In that way, a large number of specimens may be screened in a minimum of time. A comparison chart included in the pack indicates "trace," "moderate" and "strongly positive." The pack is a bottle of 100 tablets.

TRADE NOTES

In Case of a Rail Strike.—Genatosan, Ltd., Loughborough, have organised special stock lists of their products to wholesalers by road transport, ensuring plentiful supplies to retail chemists in the event of a railway strike.

Sole Agents.—Biddle, Sawyer & Co., Ltd., 4 Grafton Street, London, W.1, have been appointed sole agents in the United Kingdom for the hormones manufactured by Schering, A.G., Berlin, Germany.

Closed for Stocktaking.—Britton, Malcolm & Company, Ltd., 38 Southwark Bridge Road, London, S.E.1, will be closed for stocktaking on December 29, 30 and 31. During that period only urgent and special orders are being dealt with.

An Additional Size.—From January 1, 1954, Lucozade will be available in Northern Ireland in 6-oz. crown-corked bottles, produced in the new factory of Lucozade, Ltd., in Andersonstown, Belfast. The size is in addition to the 26-oz. screw-stoppered size already produced there.

Odourless Analgesic Balm.—What is described as "a new approach to the relief of muscle and joint pains," without the use of a counter irritant, is embodied in a new product, Algesal, manufactured by E.G.H. Laboratories, Peru Street, Salford, Lancs, and stocked by trade wholesalers.

Overseas Agents.—Dendron Distributors, Ltd., 94 Rickmansworth Road, Watford, announce that they have

established sole agents for NuNale as follows: *New Zealand:* Barham & Clarke, 150 Featherstone Street, Wellington, C.1; *Rhodesia:* Central African Pharmaceuticals (Pvt.), Ltd., P.O. Box 2279, Salisbury, Southern Rhodesia; *Malta:* Stellar Trading Agency, Ltd., 61 Britannia Street, Valetta.

"Smog" Masks May be Sold.—Martindale Electric Co., Ltd., Westmoreland Road, London, N.W.9, report a widespread misunderstanding by chemists concerning the frame type "smog" mask introduced into part 4 of the Drug Tariff by ECN 134 and produced by Messrs. Martindale. The mask may be sold across the counter (at the price already given in Coloured Supplement, C. & D., November 21 issue).

Christmas Greetings.—The following advertisers devote their space in this issue to Christmas greetings:—B. G. P. (COSMETICS), LTD., London, S.W.1; BOURJOIS, LTD., Croydon; BUCKLEY BOWKER TABLET CO., LTD., London, N.1; ARTHUR H. COX & CO., LTD., Brighton; FERRIS & CO., LTD., Bristol; THOMAS HARLEY, LTD., Perth; ALF. HARRISON & SONS, LTD., Leeds, 4; H. & T. KIRBY & CO., LTD., London, N.W.2; MAWSON & PROCTOR PHARMACEUTICALS, LTD., Newcastle-on-Tyne; MORNAY, LTD., London, W.1; PARKE, DAVIS & CO., LTD., Hounslow; A. REVAI & CO., LTD., London, E.C.3; POTTER & CLARKE, LTD., Barking; SANGERS, LTD., London, N.W.1;

SOUTHALLS (BIRMINGHAM), LTD., Birmingham, 8; CHAS H. WINDSCHUEGL, LTD., London, E.C.3.

Alternative to Diamorphine.—As a cough suppressor diamorphine has the disadvantage of being a most potent drug of addiction. Codeine has been widely used in its place. A new ether of morphine—morpholinylethylmorphine—was given by the Pharmacopœia Commission the approved name pholcodine. The ether is understood to have a superior sedative action to that of codeine, with fewer toxic effects, making it well tolerated by infants and children in the small

doses (compared with those of codeine) that are called for. In Ethnine, Allen & Hanburys, Ltd., Bethnal Green, London, E.2, present the compound as a cough sedative in a 4-fl.-oz. bottle (adult dose two teaspoonfuls) and in 80-fl.-oz. dispensing pack.

Holiday Arrangements.—The following Christmas holiday closing arrangements have been notified:—

Closed from Wednesday evening, December 23, until Monday morning, December 28:

ALLEN & HANBURYS, LTD., London (day and night service for emergency orders at 7 Vere Street, London, W.1 (Grosvenor 7571)).

BOOTS PURE DRUG CO., LTD., Nottingham (skeleton staff on duty on December 24).

GENATOSAN, LTD., Loughborough (Scottish depôt closed December 25 and on January 1 and 2, 1954).

C. J. HEWLETT & SON, LTD., 35 Charlotte Road, London, E.C.2 (emergency service until 12 noon on December 24).

SHARP & DOHME, LTD., Hoddesdon (urgent inquiries to John Bell & Croyden, 50 Wigmore Street, London, W.1 (Welbeck 5555)).

T. & H. SMITH, LTD. (London office) 4 Carlos Place, London, W.1.

VITAMINS, LTD., London, W.6.

Closed December 25, January 1, 2 and 3, 1954:

T. & H. SMITH, LTD., Wheatfield Road, Edinburgh.

Closed from Thursday evening, December 24, until Monday morning, December 28:

G. D. SEARLE & CO., LTD., 17 Manchester Street, London, W.1.

K. A. THIEL, LTD., 2 York Villas, Brighton, 1.

Closed from mid-day Thursday, December 24, until Monday morning, December 28:

PHARMACEUTICAL SPECIALITIES (MAY & BAKER), LTD., Dagenham (urgent requirements from John Bell & Croyden).

Closed from mid-day Thursday, December 24, until Tuesday morning, December 29:

APPROVED PRESCRIPTION SERVICES, LTD., Cleckheaton, Yorks (orders received on December 24 are being dispatched on that day as will urgent orders received by post on December 28).

BAYER PRODUCTS, LTD., Africa House, Kingsway, London, W.C.2.

PAINES & BYRNE, LTD., Pabryn Laboratories, Bilton Road, Greenford, Middlesex (urgent supplies from John Bell & Croyden).

MEGGESON & CO., LTD., Llewellyn Street, London, S.E.26 (orders telephoned to Bermondsey 1741 on December 28 will be dealt with).

PFIZER, LTD., 137 Sandgate Road,

Folkestone (Terramycin for hospital pharmacists from John Bell & Croyden) (corrected note).

Closed from Wednesday evening, December 23, until Tuesday morning, December 29:

BENGER LABORATORIES, LTD., Holmes Chapel, Cheshire (orders by telephone or telegram will be dealt with).

Closed from Thursday evening, December 24, until Tuesday morning, December 29:

CIBA LABORATORIES, LTD., Horsham, Sussex.

Open each day: BIOREX LABORATORIES, LTD., 47 Exmouth Street, (Mkt.), Rosebery Avenue, London, E.C.1 (December 24 until 8 p.m., December 25, 26 and 27 from 10.30 a.m. until 1 p.m.).

MEDICINAL PROPRIETARIES IN DENMARK

Stricter Regulation Under Proposed New Law

AN Apothecary Bill, laying down strict rules for the production and sale of medicinal products and the operation and control of pharmacies, was recently tabled in the Lower House of the Danish Parliament.

Under the Bill a speciality may be accepted for entry in a specialities register and protected for ten years after registration. The protection may, after application, be prolonged for periods of not more than five years each, but after twenty years from registration protection lapses and the product is deleted from the register. Application for extension of the protection period must be filed at least two years before the expiration of the current protection period.

A medicinal product may not be offered for sale unless it is registered. To secure registration it must be produced at a factory approved by the Health Commission and must fulfil certain conditions as to its character and production. It must be marketed not later than six months after the date of registration, and solely under a name approved by the Commission, with the addition of the manufacturer's name or trade mark. Applications for entry of imported products in the register must be filed by an authorised agent residing in Denmark.

A product entered as a speciality must be clearly marked with:—

- (1) The name of the speciality as approved by the Health Commission;
- (2) the contents;
- (3) the common names of the active ingredients and their quantities;
- (4) a production number or mark;
- (5) the name and domicile of the producer; and
- (6) storage rules and durability declaration where needed.

No other information is allowed except that materials used as aids in the manufacture of the product may be mentioned. The Bill also requires specialities to be reasonably priced. In determining whether a price is reasonable, due regard is paid to costs of production and distribution, either of the product concerned or of similar products marketed by other producers on a normal technical and commercial basis. The price of a medicinal speciality may include a

"reasonable" part of the factory's research costs.

The Health Commission may delete a speciality from the Register for various listed reasons, the most important of which are (1) that the product deviates from the registered specifications, and (2) that its continued registration and sale is deemed undesirable for health reasons. If the product is found to deviate by more than the permitted margin from its specifications, the producer or the importer is under obligation to withdraw remaining stocks from wholesalers and pharmacies.

Restrictions on Advertising

The Bill prohibits direct or indirect advertising of medicinal specialities by means of film advertisements, window displays, signs, etc. Advertising in the Press is allowed only when the form and content of the advertisement have been approved by the Commission. The rules do not apply to advertising direct to doctors, dentists, veterinary surgeons or pharmacists, or in periodicals catering for those professions. Advertising for medicinal specialities not entered into the speciality register is entirely prohibited.

The Bill defines medicinal products as "materials, drugs and biological products such as sera, vaccines, etc., which aim at curing, treating or preventing illness or symptoms of illness in man or beast, and materials used in diagnosing illness." Materials aimed at preventing the spread of illness (such as disinfectants) or used as supplements to food (vitamins) are not considered medicinal products. Regulations governing purity, production, treatment, storage, etc., of medicinal products are being laid down in a pharmacopœia that is to be put into force by Royal decree. The pharmacopœia is being elaborated out by a commission appointed by the Health Commission.

If passed, the Bill takes effect on January 1, 1955. It has not been welcomed by the Danish manufacturers. The provision limiting the protection period for specialities may, it is feared, result in reduced earnings, with consequent deterioration of the industry's competitive position in the Danish as well as in foreign markets.

PHARMACEUTICAL SOCIETY OF IRELAND

THE Council of the Pharmaceutical Society of Ireland met in Dublin on December 8, Mr. M. Costello (president) in the chair. Also present were Messrs. P. F. McGrath (vice-president), H. P. Corrigan (treasurer), G. C. O'Neill, T. C. Scott, P. Fullam, D. J. Kennelly, M. Power, C. J. Cremen, A. A. Toher, J. A. O'Rourke, T. B. O'Sullivan, Senator F. Loughman, Messrs. J. Gleeson and J. P. Kissane. Mr. J. G. Coleman (registrar) was in attendance. Apologies for inability to attend were received from Messrs. F. J. Robinson, R. Daly and C. D. Robinson.

THE PRESIDENT said it was his pleasant duty on behalf of Council members to present a token of their esteem (a gift voucher) to Mr. Toher on the occasion of his recent marriage (*C. & D.*, October 24, p. 413), and to wish both Mr. and Mrs. Toher many years of happiness. MR. TOHER thanked the president and members of the Council.

THE REGISTRAR reported that he had written to the Department of Agriculture stating that for a considerable time supplies of Aurolac and kindred substances had not been available to pharmacists, yet ordinary stores and shops in the Republic had been able to display substantial stocks in their windows. The Department's reply stated that since revised distribution arrangements were introduced in July it was assumed no new supplies of Aurolac had been available for public sale. If any information to the contrary came to the knowledge of the registrar and details were communicated to the Department, the matter would be investigated. MR. POWER said he had not heard anything further about Aurolac in his area. Some new preparations on the market were interesting the farmers and would probably affect the sale of Aurolac. The letter was noted by the Council.

A letter from the Minister for Health approved the appointments of the following examiners: Mr. M. J. Mulreany, Sligo (pharmacy in Licence examination), Dr. Helen O'Reilly (biology in First Professional examination), and Professor J. J. McHenry, Cork (physics in Preliminary examination) for the year ending October 31, 1954.

Sale of Veterinary Drugs

By letter dated November 27, Mr. Brendan Smith (secretary, Irish Drug Association) directed the Council's attention to a statement made by the Minister for Agriculture at a dinner of the Veterinary Medical Association in Dublin on November 18 that legislation to control the sale of veterinary drugs was in hand. The committee felt that the question was one for the attention of the Council of the Society. THE REGISTRAR said the matter was one on which the Council had already sent a deputation to the Minister. THE PRESIDENT said he was at the dinner and the Minister's statement was confined to a short passing reference. MR. O'NEILL said the reference as reported in the Press was detrimental to chemists, particularly to country chemists. SENATOR LOUGHMAN said the Council should make it clear to the Minister and the Department that the matter was one in which they were vitally concerned. MR. O'NEILL thought they should write a letter to the Department of Agriculture drawing attention to the Minister's remarks, and indicating that they must look after the interests of their members. MR. POWER mentioned that twelve months ago the Council had indicated to the Department that they were always available for discussion on any matters affecting them. It was finally agreed that the matter should be left in the hands of Senator Loughman who, with Senator Teevan and Deputy Brady, would see the Minister.

THE REGISTRAR reported writing to the Minister for Health about membership subscriptions in relation to the finances of the Society and on the Society's inability to enter into reciprocal arrangements with other societies. He had been informed by a member in Nigeria that the qualification would no longer be recognised in that country.

Members in Rhodesia, Nyasaland, etc., had also informed him that the qualification was not recognised there. His reply had been that the Pharmaceutical Society of Ireland was unable to discuss such restrictions at official level because they were precluded from entering into reciprocal agreements with other Societies owing to a defect in the existing legislation. The Nigeria member had asked if it was the Minister's intention to introduce, in the near future, a Bill to remedy the anomalies in the legislation. To an inquiry made on behalf of the Council the Minister had replied regretting that he was not in a position to introduce amending legislation at present.

Tariff on Ampoules Criticised

THE REGISTRAR reported that, at the request of the Irish Medical Association, the president and himself had agreed to join a deputation with the Association to the Department of Industry and Commerce to seek information on the protective duty on ampoules (see *C. & D.*, December 12, p. 578). The case made by the doctors was that they were being asked to change their prescribing habits, and that medical men would be reluctant to substitute for a medicament they were accustomed to use. The alternative, they contended, would result in a considerable increase in cost to the patient or to the hospital supplying drugs. THE PRESIDENT said they were joining the deputation mainly to see, for their own information, what the position was. MR. O'ROURKE said that, according to an article by Dr. Haliday Sutherland in *The Universe* in November, doctors in Spain and Holland must use preparations made in their respective countries. SENATOR LOUGHMAN thought it was a good idea for the president and registrar to get the full facts for themselves. MR. O'NEILL thought the indiscriminate placing of a tax on all ampoules was wrong, and MR. MCGRATH said nobody could object to protecting something made in the country, though a general tariff was wrong. MR. O'NEILL said that indiscriminate tariffs did more harm than good. What good was the tariff to pharmacy? MR. TOHER supported the previous two speakers. The effect on the public was great. It meant that the already high price of medicines went higher. MR. KISSANE said they must remember that it was Government policy to foster pharmaceutical industries in the Republic. The Irish manufacturers were doing a good job and deserved protection. THE PRESIDENT: The doctors are going on the extra cost to the hospitals while we are going for information. There is a list of exemptions. SENATOR LOUGHMAN thought the matter should wait until the president and registrar had met the representatives of the Department.

The Council discussed at length the proposed new regulations (sent for their consideration by the Department of Health) for the control and sale of barbiturates, and gave directives to members attending a conference at the Department on the matter. Representatives of the Irish Medical Association were also attending the Conference.

The Licence certificates of the following were signed and sealed: Mary McCarthy, Bridget Mary McCourt, Margaret M. M. McMonagle, Carmel Teresa Maxwell, Ruth O'Malley, Annie Tobin, Margaret M. Tobin, Bernadette Walsh, Sister Mary Pacelli Ward, Patrick A. Barry, Thomas H. Curneen, Gerard Gleeson, Kevin McArdle, Patrick G. McLaughlin, Laurence K. Moloney, Declan A. O'Sullivan and Michael Shannon. The Dispensing Chemist and Druggist certificate of Thomas Hubert Walshe was also signed and sealed. The following were elected members of the Society: Miss Penelope Caffry, Miss Mary T. McCarthy, Mrs. E. P. Stanley, Messrs. William B. Hurson and Timothy Moloney. Mrs. Margaretta M. Gleeson, 5 Ardnagregine Terrace, Summerhill, Wicklow, and Mr. Patrick Dermot Gormley, 56 Castle Road, Dundalk, were nominated for membership.



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Six Weeks to Scrutinise Labels

By January 31, 1954, the far-reaching amendments of the law relating to "trade descriptions" and "false trade descriptions" will be in force. The amendments were introduced by the Merchandise Marks Act, 1953, most of the provisions of which are already in operation. But the alterations affecting "trade descriptions" and "false trade descriptions" are going to make all manufacturers and retailers of goods take stock of their position. Bare perusal of the provisions in the first schedule of the Act unfortunately leaves the reader no wiser than he was before, owing to the current unhappy practice in Acts of Parliament of legislating by reference to something said in some earlier Act. We therefore attempt to give a simple explanation of the effect of the alterations.

The law prohibits the application of a "false trade description" to goods. It equally prohibits the sale or exposure for sale, or for any purpose of trade or manufacture, of any goods to which a false trade description has been applied. Trade description is defined as any "description, statement or other indication" as to any of the following matters: Number, quantity, measure, gauge, weight, place or country of manufacture or production, mode of manufacture or production, or material of composition, of the goods in question. Mis-statements about goods the subject of any existing patent, privilege or copyright are also prohibited. Thus it would be an offence to say falsely of any goods that they were "one dozen in number," "5 lb. in weight," "10 gallons in quantity," or say "made in Sheffield," when they were made in Bedford, "made in Britain" when they were made in Ireland, "hand made" when they were substantially made by machinery, etc. Formerly the law stopped short of restraining persons from "puffing" their goods, even though the "puff" was not really justified. "Unshrinkable," "will not fade," "will not stain" were examples which suggest themselves. The new Act extends "trade descriptions" to statements as to "the standard of quality of any goods, according to a classification commonly used or recognised in the trade" or "the fitness for purpose, strength, performance, or behaviour of goods."

Thus to say untruly of goods that they are "firsts" when they are "seconds," or that they will do something they are incapable of doing, will now clearly be offences under the Act.

Under the previous law, also, the statement, to be actionable, had to be "false in a material respect" when applied to the goods in question. That limitation was

extended to include "any alteration in a trade description making that description false in any respect." It was therefore possible to skirt round the law by using descriptions which, though they might be, on a strict construction of phraseology, within its permitted boundaries, were nevertheless likely to mislead. The new Act has extended the definition to include "misleading" trade descriptions.

The whole subject of trade descriptions is, of course, complicated, but it is hoped that the bare outline given may enable retailers to determine whether a particular trade description is likely to contravene the law.

Tests of Potent Drugs

To many it must seem that twelve deficiencies, however glaring, are not enough by themselves to justify generalised conclusions about potency levels in drugs. Nevertheless the partly or wholly impotent penicillin tablets bought from Birmingham chemists (see p. 605) by Mr. H. H. Bagnall and his sampling officers are disquieting. They should be studied by all contractors everywhere and steps taken to avoid similar results in future tests.

It would appear that some of the tablets were dispensed in complete disregard of the physical and chemical properties of the antibiotic, and that some of the suppliers could not even count correctly. The analyst exonerates the manufacturers. In tests at wholesale level he found that the penicillin tablets were, if anything, over-strength, although to allow an "overage" in penicillin tablets is not universal practice. Date stamping appears to have been abandoned by some manufacturers when the present more stable penicillin preparations came on the market. It may have to come back. Oral penicillin tablets ought to be dispensed in manufacturers' original sealed containers. Those sensible, practical recommendations were made by Mr. Bagnall for solving the specific problem of penicillin tablets. We would add that, in order to persuade doctors to prescribe in those quantities, the Minister should take space in *Prescribers' Notes* for appropriate propaganda. The Drug Tariff could at the same time be amended to provide payment on a basis of fewer tablets than the present 100.

Mr. Bagnall goes on to build an altogether more grandiose scheme upon the results of his investigations. Without abandoning the present "snap" sampling of well-known preparations by local authorities, he would have properly equipped regional laboratories set up to deal with the many new organic drugs the public analyst is today called upon to test. (The apparatus for that purpose is, of course, too expensive for most local authorities, but if it were centralised at the six or so regional laboratories he envisages it would be economically achievable.) The proposal is valuable and important and not to be lightly dismissed, but it requires one more thing to commend it to the profession of pharmacy: complete separation of drugs from foods, with the purity and potency of drugs dealt with under a special drug-testing structure. Surprisingly, since he so nearly sees the light, Mr. Bagnall fails to accept the logic of dealing separately with drugs. He advocates sampling officers with some knowledge of pharmaceutical problems—"in fact, qualifications of the same type as those possessed by the inspectors appointed by the Pharmaceutical Society would constitute

an asset of the greatest value." If that is an asset in sampling officers, then how much the more valuable and necessary in those who must conduct the analyses.

Polio Virus Observed

THE publication of an electro photomicrograph of authenticated poliomyelitis virus (see p. 601) by a United States worker, is proof that experimental work on the virus has reached a high level, even though it may add little to useful knowledge at present. The photograph does demonstrate, however, that the virus is a spherical particle about 30 millimicrons in diameter, and confirms that it is among the smallest viruses. Many attempts, both in America and in countries such as Denmark and Sweden, have been made to photograph the virus, but difficulty was experienced in isolating it (or particles of dead virus, which are the objects shown in electron photomicrographs), and until now differentiation in the photographs between the virus particles and particles of extraneous matter has not been possible with certainty. It is noteworthy that Stanley, California, who has pioneered the

chemical aspect of viruses, particularly of the tobacco mosaic virus, and is a Nobel prizewinner in his field, published an electron photomicrograph of poliomyelitis virus about a week after Taylor's. Work in poliomyelitis research appears now to have reached a stage at which concentrated preparations of the virus, such as would be necessary for making vaccines, may be just round the corner. In fact, in America there is promise of a "vaccine available for general use" in about one year. When sufficient of the pure virus material can be accumulated, chemical work can be commenced upon it.

Barbiturates in Eire

IN view of wide publicity that has been given to the statement of a police witness at an inquest at Dun Loaghair, Eire, on September 24, that he had been informed that the drugs were sold as Part II poisons, we are asked to point out that barbiturates are, in fact, Part I poisons. [The police witness's statement did not appear in the report published in the *C. & D.*, October 10, p. 367.]

Onward from Galen

A CURRENT CAUSERIE

AUSTRALIAN pharmacists voiced dissatisfaction recently with the status of their colleagues in the Australian forces. Their first concern was the status of women military pharmacists, which they have been anxious to raise to equality with that of serving men pharmacists. Accordingly a motion calling for women pharmacists in the Forces to be members of the medical service and responsible for duty and discipline only to medical or pharmaceutical officers was carried recently by the Pharmaceutical Association of Australia at its Conference at Sydney. The Association further called for the rank of the senior pharmaceutical officer at the Army headquarters to be restored from major to what it was during the 1939-45 war, lieutenant-colonel. His opposite number in the Royal Australian Air Force headquarters should be of an equivalent rank. They also called for specialist allowance to be granted to all pharmaceutical officers. Both the status of Australian military pharmacists (although at present it is unsatisfactory to their civil colleagues) and the fight that is being put up for them should be an encouragement to those interested in furthering military pharmacy in the old country.

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To read of the misdeeds of a colleague is always distressing—even if it was over 100 years ago. A recent (the November) number of the *Sussex County Magazine* contains an article by J. Manwaring Baines on the Trials of the Hastings Watch, 1825-26, in which extracts are given from the old Watch Book of Hastings for those years. The Watch, of course, was an early form of police force. For Hastings, a town which then had a population of about 8,000, there were nine constables, two of whom were on duty on alternate nights, and three were watchmen by day. "And about $\frac{1}{2}$ past 2 o'clock [a.m.] on January 21, 1826/", an extract from the Watch Book quoted in the article records, "Mr. Rowe, Drawing Master, Mr. Bate, Druggist, Mr. Harman, Tailor, James Breeds junior and Mr. Diplock, Librarian, came out of the Anchor Inn and were abusive to the Watch, and at the same time Mr. Daniels offered the Watch some rum which they declined taking." Mr. Baines states that Mr. Daniels was the landlord of the Anchor Inn at that time. What he does not explain is how a druggist came to be drinking on licensed premises at a

quarter to two in the morning. Perhaps he was led astray by his companions. He was certainly fortunate that there was no Pharmaceutical Society with disciplinary powers to drop on him.

★

THE principle that prevention is better than cure is being actively applied by the expert committee on leprosy of the World Health Organisation which in its recently published first report (W.H.O. Technical Report Series, No. 71, available from H.M. Stationery Office, price 1s. 6d.) devotes much of the space primarily to control of the disease by preventive measures (including education, and isolation of patients). The committee considers, however, that the administration of B.C.G. (by mouth) might possibly produce a relative immunity to leprosy but it would not recommend the use of B.C.G. until the performance of large-scale trials had provided more evidence as to its value. Another measure which the committee suggests could be applied is the improvement of the bodily resistance of the whole population of an affected area by giving vitamin preparations and adopting other methods of improving the diet. With regard to treatment of the disease the committee unanimously agrees that sulphones are the best drugs so far used. Provided that dosage is suitably regulated diaminodiphenyl sulphone (the "parent" substance) is not too toxic.

A PHARMACIST'S ANTHOLOGY

*THE microbe is so very small
You cannot make him out at all,
But many sanguine people hope
To see him through a microscope.
His jointed tongue that lies beneath
A hundred curious rows of teeth;
His seven tufted tails with lots
Of lovely pink and purple spots,
On each of which a pattern stands,
Composed of forty separate bands;
His eyebrows of a tender green;
All these have never yet been seen—
But Scientists, who ought to know,
Assure us that they must be so . . .
Oh! let us never, never doubt
What nobody is sure about!*

—HILAIRE BELLOC

A Survey of ANTICOAGULANT DRUGS

BY S. J. HOPKINS, Ph.C.

THE value and importance of coagulant drugs and dressings in the control of hæmorrhage has been recognised from the earliest times, but the need for anticoagulant drugs is less obvious. In recent years, however, the problem of intravascular clotting has received considerable attention and a number of attempts have been made to find substances that can inhibit or reverse that undesirable coagulation. The exact mechanism of intravascular clotting is not clear, but it is thought by some that a change in the condition of the vascular epithelium at some point leads to a local deposition of blood platelets. That in turn initiates a reaction that leads to the formation of thrombin and eventually of fibrin. The reaction is self-catalysing, and once started may continue with increasing rapidity. In normal circumstances the initial amounts of thrombin formed are removed and neutralised by the circulating blood. If, however, the blood circulation is poor, the local concentration of thrombin rises, and thrombosis quickly becomes established.

That an anticoagulant substance exists in animal tissues is shown by the action of hirudin, the anticoagulant found in the buccal secretion of the leech. It is well known that a leech bite continues to bleed after the leech has been removed, and that the bleeding is due to the hirudin present in the damaged tissues. Considerable interest was taken at one time in the possibilities of exploiting the properties of hirudin therapeutically, but it was not found satisfactory and the compound is no longer used clinically.

The first real advance to be made was the discovery of heparin; an anticoagulant was obtained from liver (hence the name) by Howell and McLean in 1916. Subsequent work showed that heparin is present in greater quantity in the so-called "mast cells" of the vascular and reticulo-endothelial systems, particularly in the lungs, and it appears to be the normal anticoagulant constituent of the blood. For a long time the substance proved difficult to purify, and early investigations were complicated by the toxic side-effects produced by the drug. By about 1936, however, a purified preparation suitable for clinical use was obtained.

Chemically, heparin is a very complex substance, being a polysulphuric ester of mucioitin (an amino-polysaccharide). The anticoagulant properties of heparin are considered to be bound up in some way with the negative charge on the molecule, and that belief is supported by the fact that neutralisation of the charge is followed by loss of anticoagulant power.

Mode of action

The clotting of blood is such a complex reaction that a definitive explanation of the process has yet to be devised. It will be recalled that a number of substances take part, including fibrinogen, thrombin, thromboplastin and calcium ions. Fibrinogen is the soluble protein constituent of blood plasma, and is transformed into insoluble fibrin by the action of thrombin. Thrombin exists in the blood in a modified form as prothrombin. For its conversion into thrombin, thromboplastin and calcium ions are necessary. Thus: Prothrombin + thromboplastin + Ca ions = thrombin; fibrinogen + thrombin = fibrin. The place of heparin in the scheme is not yet clear. Normally the action of thrombin is suppressed by some anti-thrombin fraction in plasma. Heparin alone has only a weak anti-thrombin effect, but in the presence of plasma the action is markedly increased. Heparin can, moreover, prevent the conversion of prothrombin into thrombin, and thus can function as an anti-prothrombin or an anti-thromboplastin. The net result is therefore a resultant of several factors.

Clinical Use

Heparin is now widely employed in prophylaxis against and in the treatment of thrombo-embolic disease, particularly of cases arising after surgery; for peripheral vascular disorders; and as an adjuvant to antibiotic therapy in the treatment of subacute bacterial endocarditis. In the last-named disorder, usually due to *Streptococcus viridans*, the anticoagulant effect of heparin is of value in preventing the deposition of fibrin on the inflamed valves of the heart, thus facilitating penetration of the antibiotic.

Heparin is inactive orally, and must therefore be given by injection, usually intravenously. The effect is prompt, but as the drug disappears from the circulation fairly rapidly, injections at four- to eight-hourly intervals are necessary. Furthermore, heparin should only be used where adequate facilities exist for the determination of coagulation times, and a check on the hæmoglobin level of the patient's blood is also useful. By the latter finding excessive local bleeding, not clinically apparent, may be detected. Overdosage with heparin is readily controlled by blood transfusion, or by the injection of protamine sulphate.

The great disadvantage of heparin is that it calls for intravenous injection. By the intramuscular route the injection is usually painful, and absorption tends to be irregular. None the less, a number of attempts have been made to produce solutions suitable for intramuscular or deep subcutaneous injections, principally with a view to extending the period of activity. Those preparations are usually solutions of heparin in a modified Pitkin's menstruum, a vehicle containing gelatin, dextrose and acetic acid, and intended to melt at about 80°F. The heparin solution in that vehicle is therefore solid at ordinary temperatures, and must be liquefied before use. The injections, like intramuscular injections of heparin itself, are apt to be painful, and in the opinion of some workers are not entirely satisfactory.

Dextran Sulphates

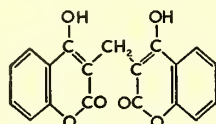
Heparin, obtained from lung or liver, is difficult to purify, and in spite of a steady reduction of price in recent years it remains an expensive drug. The action of heparin is closely related to its markedly acidic nature, and attempts have been made to prepare polysulphuric acid esters of various polysaccharides in the hope of finding a compound with heparin-like activity. Limited success has in fact been obtained, but more recently considerable interest has been taken in examining the possibilities of dextran sulphate.

Dextran itself is widely used as a blood-plasma substitute, and its polysulphuric acid esters have a definite heparin-like activity. With the higher-molecular-weight fractions the sulphates are toxic, but fractions with a molecular weight below 20,000 yield derivatives with a toxicity as low as that of heparin itself. The sulphates may be prepared by the action of chlorosulphonic acid and pyridine on finely powdered dextran. From an analysis of the sulphur content, the number of sulphate groups per glucose unit of dextran can be calculated. The point of greatest activity is about 1-1.3 sulphate groups per unit, and such compounds have an activity about one-fifth that of heparin. The work is still in its early stages, and clinical evaluation has yet to come, but obviously the method has potentialities in the production of less expensive alternatives to heparin.

Dicoumarol

The difficulties associated with the administration of heparin have stimulated efforts to find an orally active

drug. It had been known from Schofield's observations in 1922 that cattle feeding on badly prepared sweet clover hay developed a hæmorrhage disorder. The disorder was shown to be due to a deficiency of prothrombin, and Link in 1941 demonstrated that the causative substance was 3:3' methylene-bis(4-hydroxy-coumarin).



3:3' methylene-bis (4 hydroxy coumarin)

The therapeutic possibilities of such a compound were obvious, and following extensive clinical trials in America and Sweden, the drug was introduced into clinical practice under the name dicoumarol. Unlike heparin, the drug is active orally and it has been used extensively in the prophylaxis and treatment of thrombosis and allied conditions. The initial dose is of the order of 200-300 mgm., with maintenance doses varying from 50-100 mgm, according to the response.

The action of the drug is slow in onset, and a latent period of 24-48 hours must be expected before any action becomes manifest. The time lag is independent of the size of the dose, and suggests that the compound acts by the inhibition of prothrombin-formation by the liver, as a further delay in returning to normal is noticed after withdrawal of the drug.

The dose of the drug is based on the therapeutic response as shown by the prothrombin time. For that reason, dicoumarol therapy has largely been restricted to hospitals where satisfactory laboratory services are available. When a prompt effect is essential, dicoumarol and heparin may be administered simultaneously, the heparin injections being discontinued as the dicoumarol begins to take effect.

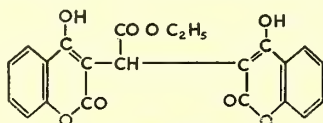
Occasionally an excessive response to the drug is noted and some bleeding may occur, particularly in post-operative conditions. The administration of dicoumarol should be discontinued immediately, and if the bleeding is severe a transfusion of fresh whole blood given. That usually restores the prothrombin times to a more normal level.

Mode of Action

There is a structural resemblance between dicoumarol and vitamin K, and it has been suggested that the drug may act by competing with the vitamin in the formation of an enzyme system concerned in the production of prothrombin. That theory is supported by the facts that some vitamin-K compounds can antagonise the action of dicoumarol, and animals deficient in the vitamin are very susceptible to small doses of the drug. No simple explanation, however, can account for all the factors involved.

Tromexan

The disadvantages of dicoumarol as an anticoagulant stimulated the search for more controllable drugs. The first real success was achieved with Tromexan; ethyl 4:4'-dihydroxy-dicoumarinyl acetate. Tromexan is characterised



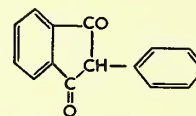
Tromexan

by quicker absorption and excretion; hence its action is more rapid in onset, and the return to normal after withdrawal of the drug is more prompt. Initial treatment with heparin is often unnecessary, except when an almost immediate response is essential. Toxic affects are rarely encountered with ordinary doses. The clinical indications of Tromexan are similar to those of heparin and dicoumarol,

and its advantages are such that the use of dicoumarol has declined considerably.

Phenylindanedione

Tromexan, while extremely valuable clinically, has the disadvantage of being expensive. That fact arouses interest in the therapeutic potentialities of less expensive alternatives, and certain advances along those lines have in fact been made. It was reported in 1944 that certain indanediones had an antithrombin effect when given orally to animals, and subsequent research showed that phenylindanedione was a derivative suitable for clinical use. It can



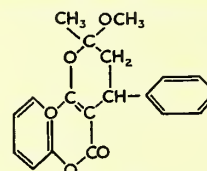
Phenylindanedione

be classed as a drug with a medium rapidity of action. It avoids on the one hand the slow response of dicoumarol, yet its rate of elimination is gradual enough to prevent any difficulty in maintaining a steady effect. Within limits, the response obtained can be anticipated from the dose given.

The initial dose of phenylindanedione is 200 mgm, (as two doses of 100 mgm.) followed by 100 mgm, on the second day. The rise in prothrombin time at the end of 36-46 hours is an index of the patient's sensitivity, and the smaller the maintenance dose required. The range of dose for maintenance usually lies between 50 and 150 mgm., which dose extends the prothrombin time to twice the normal. The exact maintenance dose must, of course, be assessed on the laboratory reports of the prothrombin times.

Cumopyran

Like dicoumarol, the compound Cumopyran is a derivative of coumarin, being 3,4-(2'-methyl 2'-methoxy-41 phenyl) dihydropyranocoumarin. Like Tromexan, Cumopyran has a



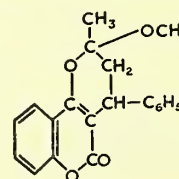
Cumopyran

rapid initial action, but the effect appears to be more prolonged. It is effective in lower dose, and is often well tolerated when other anticoagulants give rise to some gastric disturbance. According to some observers there is a more regular response to Cumopyran than to dicoumarol, and control of dose is easier. The drug is some two to three times as potent as the older drug, and hæmorrhagic sequelæ are rare.

The initial dose of Cumopyran is 100-200 mgm., followed next day by 12.5-25 mgm. Subsequent doses are given at intervals of one to four days, according to response.

Link's Compound 63

"Compound 63" is one of a series of compounds synthesised by Link and his associates. Chemically it is 2-methyl-2-methoxy-4-phenyl-5-oxydihydropyrano(3-2c)-1-

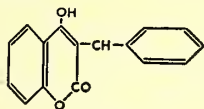


Compound 63

benz-pyran. Clinical reports indicate that the drug exerts its action more quickly than dicoumarol, and that there is less need to vary the doses so widely. The product is not yet available in this country.

Marcoumar

Marcoumar is one of the newest coumarin derivatives to become available on the British market. It is a three-ring compound with the systematic name 3-(1'-phenyl-propyl)-4-hydroxycoumarin.



Marcoumar

The compound is characterised by a high degree of activity, and is therefore therapeutically active in small doses. The initial dose is of the order of 15-21 mgm. (5 to 7 tablets) on the first day of treatment, followed by 9-12 mgm. on the second day, subsequent doses being controlled by the prothrombin estimations. The maintenance doses usually lie between 1 and 5 mgm. There is a latent period before the effect of the drug is observed, and heparin may be used to bridge the gap between administration and full effect when a prompt action is essential. It is said that the constancy of response to Marcoumar is noteworthy, and that the side-effects are less than those experienced with some other drugs of this class.

Antidotes

Overdosage of anticoagulants may lead to bleeding, either from unhealed wounds or from mucous membranes. Where adequate laboratory facilities exist to determine prothrombin times, on which dosage may be assessed, hæmorrhagic accidents are rare. When they do occur, prompt measures are necessary. Fortunately a heparin antagonist is readily available in protamine sulphate. Protamine is a simple pro-

tein obtained from the sperm of the trout. It is administered by intravenous injection as a 1 per cent. solution. The effect is rapid, and the dose required can be based on the assumption that 5 c.c. of protamine solution neutralise the action of 5,000 units of heparin. Neutralisation of the action of coumarin derivatives was until recently much more difficult. Administration of the drug concerned is stopped forthwith, and in severe cases a transfusion of fresh whole blood may be necessary. That leads to an immediate fall in the prothrombin level, and though the level may rise again, a second transfusion is not often required.

Synthetic analogues of vitamin K have often been used in attempts to control hæmorrhagic manifestations following anticoagulant therapy, but with little success. Recently, however, a more specific antidote has become available: vitamin K₁. It has been shown that this compound can block, or even reverse, the action of synthetic anticoagulants, and produce a rapid fall in the prothrombin time. In practice, of course, it is seldom necessary to restore the prothrombin time to normal, it being usually sufficient to raise the prothrombin of the blood to a safe point above the hæmorrhage level. In such circumstances the intravenous administration of 50 mgm. of vitamin K₁ usually restores the prothrombin times to manageable levels. Alternatively, the drug may be given orally in doses of 10-20 mgm., but subsequent dosage must, owing to the wide variations in response, be adjusted in the light of the reaction to treatment. If very large doses of vitamin K₁ are given, not only is there a risk of return of the thrombotic symptoms, but a refractory phase may occur, lasting about a week, during which synthetic anticoagulants are ineffectual. Recourse would then have to be had to heparin until the vitamin K₁ was eliminated and sensitivity to the synthetic anticoagulants re-established.

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QUATERNARY AMMONIUM CREAM

Notes on its Preparation

By M. A. PHILLIPS, D.Sc., F.R.I.C., A.M.I.Chem.E.

CREAMS and ointments based on the series of antiseptic substances known as quaternary ammonium salts (including benzalkonium, cetyl pyridinium chloride or bromide, cetyl trimethyl ammonium halides, etc.), are, if made properly, self-emulsifying and powerfully antiseptic over a wide and non-specific bacterial spectrum. Certain precautions must be observed in manufacture:—

1. The reagents must be quite free from any anionic surface-active material, which will not only prevent proper emulsification but will neutralise the bacterial activity of the quaternary compound (which is a cationic surface-active substance). At the stoichiometric proportion of one molecular equivalent of anionic and cationic material, a compound (possibly a loose van der Waal type) is formed that has no surface activity and hence no emulsifying properties and no antibacterial action. Various reports that creams and ointments can be made with both types of surface-active agent present at the same time are based on the presence of an excess of one. Such non-stoichiometric mixtures have a bactericidal activity depending on the excess of one of the materials, and anionic materials are far less active biologically than cationic. Nonionic surface-active materials are compatible with either type.

A proportion of a fatty alcohol such as cetyl alcohol, stearyl alcohol or the commercial mixture known sometimes as ceto-stearyl alcohol, is essential to the formation of anything more than a transient emulsion. Heat readily

reverses the emulsion. However, re-emulsification can be achieved easily through vigorous agitation whilst cooling.

Although the creams formed are powerfully antibacterial, mould growth on the surface sometimes occurs. If the product is packed in a container with cardboard in the lid, mould often grows on the cardboard. A little parachlorometaxylenol (PCMX) or similar material will prevent the trouble. Cellulose material should nevertheless be used in the pack and plastic materials generally are very useful. The mould growth is probably caused by lack of penetrating power of the quaternary material, in fact, for the same reason the agar zone method of assay cannot be employed for quaternary ammonium antiseptics (Phillips, *Nature*, 1947, **160**, 55).

The following formula and method produce a typical quaternary-ammonium-based antiseptic cream:

Cetyl alcohol, technical, 225 gm. is melted gently with soft white paraffin, 150 gm., and liquid paraffin, 75 gm. The quaternary ammonium salt, for example cetyl trimethyl ammonium chloride, 7.5 gm., is then stirred in to give a complete solution. PCMX, 1 gm., is added and dissolved with the aid of gentle heat and agitation. The temperature of the mixture is then raised to 80° C. In the meantime, a solution of Glauber's salt, 10 gm. in water, 1,050 c.c., is prepared at 80° C. The fatty mixture is then poured in a thin stream into the vigorously agitated aqueous solution and the product set in a cooling bath with running water. The agitation is continued until the temperature has fallen to about 20° C., at which level a viscous cream is formed.

A Chartered Accountant gives answers to **ANY BUSINESS QUESTIONS?**

I have had a new shop front put in at considerable cost, and am now told that the inspector of taxes refuses to apply wear-and-tear allowances on such an item. Will you let me have your observations?

ALLOWANCES for wear and tear are granted on the cost of plant and machinery (which covers motor vehicles) and—by concession only—furniture and fixtures and fittings (with the exception of soft furnishings). A shopfront, apart from any fittings, does not come within those categories, since it is an integral part of the building itself, and wear and tear is not allowed to retailers on the cost of buildings, etc.; on the other hand, replacement costs are allowable in instances where wear and tear has not been given. Any element of improvement must be excluded, and the cost of replacing the old shopfront may be brought in as a deduction from the income-tax computation.

We wish to cut account work down to a minimum. If we keep files of statements and invoices paid separately from unpaid accounts, would this be adequate? At the end of the year, figures can be prepared from the bank sheets.

THE question is to be considered under two heads—legal requirements; and the needs of the business. If the business is not a limited company, the provisions of the Companies Acts have no application but certain difficulties can arise in unforeseen circumstances. For example, under the Bankruptcy Acts, there may be difficulties if proper books of account have not been kept to exhibit or explain the transactions and financial position of the business. The tax authorities cannot insist on the keeping of books, but may submit arbitrary assessments, tending to increase each year. They may be troublesome to contest, the onus being on the taxpayer to prove the assessments incorrect. The efficient running of the business, the possibility of sale, the introduction of a partner, the need to raise a loan, valuation for death duties—all may be hampered if records are not adequate. Some recording of takings and cash disbursements should in any case be made.

Is a company compelled to pay directors' fees in the full amount stated in the Articles, even if the director wishes to receive only such amount as will not be liable to tax, viz., under £3 a week or equivalent?

A DIRECTOR may waive part or all of his fees, though he is not bound to do so. P.A.Y.E. is deducted from payments only subject to coding. To be enforceable, a waiver by one of several directors requires legal consideration for the release, and *vis-a-vis* the Inland Revenue it would be preferable to arrange it in that way. But where all the directors mutually agree to surrender their rights, then the agreement is binding on them. (It should be noted that the Articles are evidence of a contract between members concerning the internal management of the company, and directors as such are outside that contract although, of course, an alteration of the Articles may give rise to a claim for damages for a resulting breach of any agreement.)

I am informed that it is more advantageous to run a private chemist's business now as a limited company. Would you kindly tell me if this is the case, giving points for and against and also the approximate cost of the conversion. I gather one of the main advantages is that it reduces the amount of surtax which one would pay on a private concern.

APART from the privilege of a known maximum liability and the enhanced status attaching to incorporation, some of the advantages of forming a company are:—

1. Control is more easily secured and transferable.
2. Shareholders have not the power to bind the company by their acts.
3. A company is a distinct legal entity and remains undisturbed by death or bankruptcy of a member.

4. It is unnecessary to obtain the consent of all the members to give effect to a transfer of shares.

5. Members may prove (for loans and other debts due to them) against the company in liquidation.

6. Unlike a partnership, a company may hold land or property in its own name.

On the other hand, some traders feel that an impersonal element is inherent in the existence of a company. A company obtains, too, no personal or earned income allowances on its profits, and pays tax at the standard rate in one instalment on January 1. (Profits may be distributed as directors' fees giving allowances, etc., but P.A.Y.E. would be deductible.) Profits tax, too, is assessable on incorporated bodies. Costs of conversion include:—

(a) Duty at 10s. per £100 of nominal capital.

(b) Fee stamp ranging from £2 (where capital is not more than £2,000) to a maximum of £50.

(c) Deed and other stamps amounting to £2 on the articles, memorandum and documents to be filed.

Surtax is chargeable on undistributed company income in certain cases but, in pleading for the continuation of limitation of dividend policy, the Chancellor has stated that action will not be taken in *bona fide* cases.

How do you calculate the rate of stock turnover? I have heard that knowing the rate of turnover can be very useful—will you give me some idea of its uses?

THE rate has some importance in that it can indicate how economically working capital is being used. The average stock held is worked out for the period under review and the cost of goods sold calculated (that is, goods purchased, adjusted by opening and closing stocks). Dividing the former into the latter gives the number of times the average stock has been turned over. Thus, the total turnover may have risen but the rate of turnover fallen—the larger total turnover being obtained from a comparatively higher stock. The question then arises whether excessive stock is being held. On the other hand, a fall in total sales may still be concomitant with a more efficient use of capital. A difficulty to be contended with is arriving at the true average stock for the period. A detailed analysis, too, of goods bought covering several lines should be kept if the rate is to be worked out for each line.

PHARMACEUTICAL SOCIETY OF NORTHERN IRELAND

A MEETING of the Council of the Pharmaceutical Society of Northern Ireland was held in Belfast on December 4, the president (Mr. W. H. Boyd) in the chair. Also present were Messrs. J. Irwin (treasurer), S. E. Campbell, H. H. Cowzer, H. P. Crossin, H. W. Gamble, J. McGregor, H. F. Moore, C. A. Quinn, and Professor E. B. C. Mayrs. The secretary (Mr. William Gorman) was in attendance. Apologies for absence were received from Messrs. W. P. Ewart (vice-president), H. J. Cousley, F. R. Moore, P. R. W. Shinner and Walter C. Tate.

A letter was received from Mr. Tate thanking the Council for their good wishes for a speedy recovery from the effects of an accident. Professor H. Brindle also wrote thanking the Council for their message of congratulations on his appointment as Dean of the Faculty of Science at Manchester University.

THE SECRETARY reported that the deputation appointed to discuss the draft education regulations with officials of the Ministry of Education had arranged a meeting for December 9. A discussion took place on the question of holding the Council meeting at a time other than Friday afternoon, and it was agreed to raise the matter at the January meeting.

A MODERN COURSE OF PHOTOGRAPHIC STUDIES-2

An examination for photographic assistants was instituted by the Photographic Dealers' Association in 1939, and a Course of Photographic Studies, published as a series of articles in THE CHEMIST AND DRUGGIST and reprinted as a booklet, served for many years as textbook for the examination. But changes in the examination syllabus rendered the course—as then published—no longer adequate, and the present Modern Course, which has been compiled to replace it, has been completely re-written by H. Baines, D.Sc., F.R.I.C., F.I.B.P., Hon. F.R.P.S.

Silver Salts

THE unassailable position of silver in photography is due to three properties of salts of this metal:—

- (1) Most salts of silver are light in colour;
- (2) many salts of silver are unstable, and are decomposed by the action of light.
- (3) metallic silver is usually one of the products of decomposition.

Since metallic silver so produced is in a finely divided form and is jet black, showing none of the brightness of massive polished silver, those three characteristics explain why silver salts usually darken when exposed to light.

The blackening or "printing-out" of silver salts is an efficient way of producing a photographic image compared with the use of most other light-sensitive media, but the alternative formation of silver images by the development of a latent image increases the efficiency of the silver process by a factor of about a thousand million, so that silver salts are likely to remain the essential light-sensitive constituent of photographic materials for many years to come.

Of the available salts of silver the chloride, bromide and iodide were early recognised as being the most suitable for photographic purposes. They are closely related compounds, known collectively as silver "halides." They are insoluble in water and light in colour, silver chloride being white, silver bromide pale yellow and silver iodide lemon yellow. They can be made by direct interaction between metallic silver and the appropriate halogen (i.e., chlorine, bromine or iodine), and indeed that is the method which Daguerre used in preparing his plates. An alternative and more convenient method of making silver halides is to mix a solution of silver nitrate with a solution of alkali (sodium, potassium or ammonium) halide. Silver bromide, for example, may be made by mixing solutions of silver nitrate and potassium bromide. The two chemicals react to form potassium nitrate and silver bromide, and as the latter is insoluble in water it is precipitated in the form of a cloud of minute crystals which immediately coagulate and settle to the bottom of the vessel as a heavy pale-yellow curd. If the potassium bromide solution also contains dissolved gelatin, the crystals of silver bromide are prevented from coagulating, since each crystal is surrounded by an adsorbed layer of gelatin, and there is little or no settling out. Photographic emulsions are made by such precipitation in the presence of gelatin, followed by heat treatments, which cause the crystals or "grains" to decrease in numbers but increase in size and sensitivity.

Photographic Emulsions

The characteristics of the emulsions are influenced in the first place by choice of halide, and then by conditions of precipitation and treatment. Silver chloride is used for slow

development papers of the Velox type, a mixture of chloride and bromide for the warm-toned chlorobromide papers, and silver bromide (with a small admixture of iodide) for bromide papers and the whole range of negative film and plate materials. The iodobromide (bromiodide) emulsion is therefore by far the most important type.

In general the sensitivity of an emulsion increases with increase in grain size, hence the fastest emulsions give, in general, more grainy results than slower emulsions. It also follows that an emulsion of very even grain-size will have grains of approximately the same sensitivity, and hence a short range of exposures bridges the gap between rendering none and rendering all the grains developable. That is to say that an emulsion of even grain-size is usually one of high contrast, and conversely an emulsion of soft gradation is one whose grains show a wide variation in size. The art of emulsion making is therefore that of producing emulsions of the requisite grain-size distribution to give the required photographic characteristics, while at the same time keeping the *average* grain-size as low as possible for the speed required.

Colour Sensitivity

The natural sensitivity to light of different colours varies with the three halides. Silver chloride is sensitive only to ultra-violet radiations, the sensitivity of silver bromide extends partially into the blue region, but the admixture of about 5 per cent. of silver iodide to silver bromide gives a further extension into the blue region of the spectrum, and provides the most sensitive combination of all silver halides. Silver halides used alone are insensitive to the green, yellow and red portions of the spectrum.

In 1873, Vogel made a discovery of paramount importance. He found that a small proportion of a certain dye-stuff introduced into an emulsion extended the sensitivity into the green part of the spectrum. That observation stimulated experiment and a large number of dyes were investigated. It was found that a group of dyes known as the cyanine dyes were outstandingly efficient in imparting colour sensitivity, and by using different dyes of that type it is possible to give high sensitivity in the green (orthochromatic materials), throughout the whole visible spectrum (panchromatic materials), and even in the infra-red, as far as 10,000 Å. Sensitising dyes are adsorbed to the surface of the silver halide grains, and the sensitised region corresponds to that part of the spectrum which the dye absorbs.

The Latent Image

The silver halide in an unexposed photographic emulsion can be converted to black metallic silver by immersing the material in a photographic developer. Conversion may take some hours to complete, and normally little reduction will

have taken place after the normal development time. Exposure to light, however, causes an increase in the rate of action of a developer of from 10 to 100 times, so that exposed grains of an emulsion are completely reduced to metallic silver in a matter of minutes. The optimum development time for a given material in a given developer is thus the compromise that will give the greatest differentiation between exposed and unexposed grains. Exposure of an emulsion causes no visible change—in fact a photographic developer is the most delicate reagent for detecting the change that has taken place, so that by no other chemical or physical means can we differentiate between an unexposed emulsion grain and one that has received just sufficient exposure to render it developable. However, we have a mass of indirect evidence, which points conclusively to the view that a brief exposure to light forms in each grain a few atoms of metallic silver and the silver so formed “catalyses” or accelerates the reduction of the remaining silver halide of the grain to metallic silver by developer solution.

A camera exposure forms an invisible image—called a “latent” image—in which the proportion of grains rendered developable depends on the brightness of different parts of the subjects. The highlights produce the largest number of developable grains, and hence the blackest deposit of silver on development. The proportion of developable grains, and hence the final density, decreases progressively with decreasing brightness of various parts of the view.

Developers and Development

Modern developing agents are simple organic compounds that act as chemical reducers. Chemical reducing agents remove oxygen or equivalent elements from other compounds, and hence convert metallic oxides and salts to metals. They are the converse of oxidising agents, which add oxygen or equivalent elements, and hence convert metals into their oxides or salts. (From the electrochemical point of view, reducing agents are electron donors, oxidising agents are electron acceptors.)

Practically all developing agents are hydroxy or amino derivatives of benzene, such as hydroquinone, amidol, paraphenylene diamine, paraminophenol, etc. They produce different photographic effects, but it is possible to obtain combinations of two agents producing under certain conditions higher densities than the sum of the densities produced by the agents acting individually. That phenomenon is known as “super additivity,” and is shown to a marked degree by metol and by hydroquinone; hence the popularity of M.Q. developers. Developing agents usually function much more vigorously in alkaline solution, and hence developing solutions normally contain an alkali such as sodium carbonate, caustic soda, borax, ammonia, etc., which acts as an “accelerator.”

A mixture of developing agent and accelerator alone is usually unsatisfactory in that it is a little too vigorous to differentiate sufficiently between exposed and unexposed grains. That fault is cured by the addition of a small quantity of a “restrainer,” for which purpose potassium bromide is almost invariably employed. Alkali bromide is one of the products formed when silver bromide is reduced by an alkaline developer, and potassium bromide functions as a restrainer in conformity with the rule that chemical reactions are generally hindered by the presence of the products of the reaction.

The developer would still be unsatisfactory, since it would be rapidly oxidised by oxygen of the air, destroying the developing agent and forming brown oxidation products, which would stain photographic materials developed therein. Sodium sulphite is therefore added as a “preservative.” Sodium sulphite is itself a reducing agent, and the explanation of its action usually offered is that sodium sulphite preferentially reacts with oxygen of the air, and thus reduces the chances of aerial oxidation of the developing agent. That explanation, however, is erroneous, since

the total oxygen absorbed is much less when sulphite is present in a developer than when it is absent. The true explanation is that, when an alkaline solution of a developing agent is subjected to aerial oxidation, the reaction proceeds in several stages, the first being the formation of unstable compounds called semiquinones, which are subsequently further oxidised to quinones and then to complex dark brown tarry substances. Now the quinones have a powerful “catalysing” or accelerating action on aerial oxidation, so that, as soon as they are formed in sufficient concentration, reaction proceeds at a greatly increased rate. Sodium sulphite, however, immediately reacts with quinones to form relatively inert colourless bodies called sulphonates, and thus prevents the rapid oxidation from taking place.

To summarise, the four main constituents generally present in a developer are:

- (a) the developing agent (metol, hydroquinone, amidol, etc.),
- (b) accelerator (sodium carbonate, caustic soda, ammonia, borax, etc.),
- (c) preservative (sodium sulphite),
- (d) restrainer (potassium bromide, or anti-fogging agent).

Stop Baths and Fixation

After development it is necessary to prevent the unchanged silver halide from spoiling the negative or print by darkening when the material is subsequently exposed to light. The image is normally “fixed” by dissolving the unchanged silver halide in a solution of sodium thiosulphate (“hypo”) and then washing the material free from the solution. Hypo is a colourless, crystalline neutral salt, easily soluble in water.

When a piece of material is removed from the developing bath, development does not immediately cease. The active developer solution with which the swollen emulsion layer is saturated continues to develop until it either becomes exhausted or diffuses into a subsequent bath. Such continued development does no harm, provided that it is imagewise, and continues the initial development, but if a material is transferred directly from developer to a neutral hypo solution, the developer in the film may also reduce to metallic silver the silver salts that have just dissolved in the hypo. That silver is formed as a deposit over the whole material. It is of such fine grain that it appears yellowish by transmitted light and green by reflected light, and hence is called dichroic fog. Plates and films, because of their thicker emulsion layers, are more liable to give this trouble than papers. It can be avoided by giving an intermediate rinse between development and fixation, after which the developer concentration in the emulsion layer is too low to develop appreciably the dissolving silver halide. It is preferable, however, to transfer the film or plate momentarily to a dilute solution of a weak acid, such as acetic acid, which neutralises the alkali of the developer and completely stops development. That solution is called the “acid stop bath.” It may incorporate a hardening agent, which limits swelling and reduces the liability of melting of the emulsion or backing layer, and recently a stop bath has been marketed containing a coloured indicator which warns the user when the acid of the stop is approaching exhaustion.

A third method of avoiding dichroic fog is the use of an acid fixing solution. Hypo cannot be acidified by a strong mineral acid, since it is thereby decomposed to give sulphur and sulphurous acid. On the principle previously mentioned—that a chemical reaction is usually hindered by the presence of products of reaction—one would expect that the decomposition would not take place readily in the presence of sulphurous acid, which can indeed be safely used for acidifying thiosulphate. It is convenient to use it in the form of sodium metabisulphite, which may be considered a combination of sodium sulphite and sulphurous acid, or in the form of a mixture of sodium sulphite and acetic acid.

Stabilisation

Fixation renders a negative stable by completely removing the unchanged silver halide. The same object could be achieved by converting the silver halide into a colourless silver salt that is stable to light action—a process known as “stabilisation.” There are, however, two main differences between a stabilised image and a fixed image. In the first place stability of silver salts to light and atmosphere is a relative term. No known salt of silver is absolutely stable, and hence the stability of a “stabilised” image is less than that of a correctly fixed image. Secondly, the stable silver salt, even if clear and colourless, would be present in a granular and hence light-scattering form, so that stabilised images are just as milky as an unfixed image. That would be disadvantageous for images on film or plate, but not apparent for images on paper, and hence stabilisation is generally confined to paper processes such as document copying, where the rapidity of stabilisation compared with fixing and washing is a real advantage and where extreme permanence of image is not necessary.

Stabilisation is normally achieved by treating the developed paper with a solution that converts the residual silver halide into a complex which is stable in the presence of excess of the solution. The stabilised print must not be washed, since thereby the complex would be rendered less stable. Examples of stabilising solutions are acid solutions of thiourea, thiosinamine, semicarbazide, thiocyanates or thiosulphates. The last-named is a common and interesting example, whereby stabilisation is obtained by treatment of developed paper with strong acid fixer, provided that the paper is dried without a final wash! Residual argentothiosulphates in a material make for instability, owing to their tendency to dissociate in time into thiosulphate and silver ions, the latter forming silver sulphide or metallic silver on exposure to air and light. For that reason

washing after fixation must be thorough. However, applying for the third time the Law of Mass Action, one recognises that the decomposition of argentothiosulphates is hindered by the presence of excess of thiosulphate. A completely unwashed print is for that reason much more stable than an incompletely washed one, though of course, less stable than a completely washed print.

Reversal Processing

The highlights of a developed but unfixed film represent areas of greatest conversion of silver halide to silver, and hence least residual silver halide. Conversely, the shadows are areas of least metallic silver and most residual silver halide. The residual silver halide thus represents a potential positive image, which could be realised by removing the negative silver and then developing the remaining silver halide. That is the basis of reversal processing used in colour photography and substandard cine photography. If the final positive is to have clear highlights, the initial camera exposure must be such that the highlights expose practically the whole of the silver in the emulsion layer. In order to keep the camera exposure to a minimum, specially thin coatings are used in which the silver halide per unit area is as low as possible consistent with good tone rendering.

After the camera exposure the film is given full development in a vigorous M.Q. developer, which may contain a small quantity of solvent such as ammonia. After thorough washing the silver image is dissolved in acid permanganate solution, followed by a rinse and resensitising in a bath of sulphite. The film is then given a uniform exposure, full development, and a final fixation to remove any silver halide that has escaped the second exposure and development. The film bearing a positive image is washed and dried.

CORRESPONDENCE

BUT NO GOLDEN EGGS?

SIR,—The attempt by a few manufacturing wholesalers to force the metric system on to retail pharmacists has not been very successful in the North. It is rumoured the sponsors have become so anxious they are planning to circularise a “pep talk” in favour of the scheme. Most of us will remember with a smile, as we crumple up a useless document, that you can always propagate a propaganda if you have a proper goose.

COLOCYNTH

A NEW CUT IN PHARMACISTS' REMUNERATION

SIR,—After all the fuss and bother about the arbitrary cuts which the Ministry has made in pharmacists' remuneration, it is laughable to see how some of us are now busy cutting our own throats with cartoned dressings. It seems that some dressings makers are trying to get business from their competitors by offering good-quality carton packs at only about 2½ per cent. more than the usual—paper pack—and that, of course, is much less than the actual extra cost of the carton. On the face of it this looks like a good bargain—but think! The Ministry pays us the same amount whichever pack we dispense. If some of us voluntarily cut our remuneration by 2½ per cent., how long will it take for the Ministry to make a compulsory cut of 2½ per cent. for everyone and everything? My guess is not very long.

REALIST

PRESS PUBLICITY PROBLEMS

SIR,—It would appear that the statement made by me in the pharmaceutical Press (*C. & D.*, December 12, p. 591) last week has failed to clarify one point, namely the manner in which the *Recorder* and other newspapers obtained a report of the Durham meeting. The position was that before the meeting I supplied the Society's Press officer with an advance copy of my notes in accordance with a custom that has existed for some time. That the paragraphs chosen for release to the Press contained implications not foreseen at the time was an error of judgment on my part which no one regrets more than I. At no time

have I had any direct or indirect contact with the *Recorder* newspaper or any other newspaper on the subject. In conclusion may I say again how distressed I am personally that the result of this Press release should have been so diametrically opposed to the intentions in my mind.

LONDON, S.W.18

F. C. WILSON

SIR,—Following recent Press comment on unqualified assistants in pharmacy, may I ask?—

(1). Why is it that, to date, no report of Mr. Wilson's address to the Durham Branch of the Pharmaceutical Society has been published in the pharmaceutical Press, whereas national dailies were given press copy, presumably by the Pharmaceutical Society press officer?

(2). Was the press copy withheld from certain organs of the pharmaceutical Press? If so was the cause deliberate intention or discourtesy?

(3). I have always understood that, when members of Council address pharmaceutical branch meetings, a code of conduct binds them to propound Council policy and not the individual views of the member himself. That code has been rigidly adhered to in the past; why then was an exception made in the case of Mr. F. C. Wilson? Did he speak with Council authority, or did he express himself as an individual? If the latter, why was the ban lifted?

(4). Was the Press copy issued with the full Council blessing; if not, why were one member's views given such publicity?

As a retail pharmacist who vigorously opposed the Council's policy in respect to the registration of unqualified assistants, I am disturbed at this sudden outburst. Members may rest assured that I will pursue the issue.

PORTSMOUTH

J. C. BLOOMFIELD

[We requested and obtained from Mr. Wilson on December 7 the notes he used for his address. We do not ordinarily publish speeches made at Branch meetings until we also receive reports of the discussion at those meetings.—EDITOR.]

TRADE REPORT

The prices given are those obtained by importers or manufacturers for bulk quantities or original packages. Various charges have to be added whereby values are in many instances augmented before wholesale dealers receive the goods into stock. Crude drugs and essential oils vary greatly in quality and higher prices are charged for selected qualities.

LONDON, DECEMBER 16: Firm orders for CRUDE DRUGS were again for small lots only. Most prices remained steady, but a number of commodities improved considerably on their previous values, owing largely to scarcity of supplies. The threat of a railway strike brought little, if any, extra inquiry from buyers in any of the markets.

Stocks of CARDAMOMS (Aleppy greens) on the spot were scarce, and quotations for shipment rose by 1s. 3d. per lb. Old-crop GUM ACACIA now appears to be in firm hands, with a result that holders of Kordofan cleaned sorts advanced their prices by 8s. 6d. per cwt.; new-crop for shipment was also dearer. All grades of SHELLAC were marked up, the F.O.T.N. being 10s. per cwt. more. There were no important price changes recorded in SPICES, and the volume of business passing was reported to be small. HONEY is a firm market and is likely to remain so for another two months at least. After months of inactivity good-quality RHUBARB is now difficult to find on the spot, and there were no offers from origin. Spot supplies of Prime Cape ALOES had either been taken up or were held pending further news of the position at origin.

In PHARMACEUTICAL CHEMICALS, there has been a general hardening in the prices of BARBITONE and PHENOBARBITONE. Deliveries from manufacturers at the moment are subject to some delay, but the shortage is believed to be only temporary.

Steady conditions have prevailed in the ESSENTIAL OILS market. ANISE was unchanged, but LEMONGRASS, at 8s. per lb., was firmer by fourpence halfpenny per lb. on the spot, and shippers asked 8s. 3d. c.i.f., for prompt shipment. CITRONELLA from all sources held the firm position it has enjoyed for the past few weeks. Supplies of PIMENTO are short and prices are nominal.

UNITED STATES DRUG AND CHEMICAL REPORT

NEW YORK, DECEMBER 15: Prices of Pharmaceutical Chemicals were substantially unchanged. The current prices of a number are given below:—

	Cents per lb.
Acetone	10.25-10.50
Camphor, synthetic	57.00
Glycerin, pure	33.50
Guaiaac resin	31.62-32.00
Hexamine	23.25
Magnesia, calcined	32.00-32.75
DDT	23.00-26.00
Sodium bromide	34.00-35.00
	Dollars per lb.
Iodine, resublimed	2.55
Menthol	5.50
Sulphanilamide	1.30-1.50
Theobromine	3.00
	Dollars per oz.
Emetine hydrochloride	32.95-35.00
Atropine	8.00-8.50
Nicotinamide	12.00-12.30 per kilo
Streptomycin	17 cents per gm.
Penicillin procaine in bulk, per mil- lion units.	8.5 to 9 cents.

Activity in CRUDE DRUGS was limited. Higher per lb. were Bourbon

VANILLA BEANS at \$6.75 (up 25 cents); TOLU BALSAM at \$3.00 (15 cents); and black French PSYLLIUM SEED at 70 cents (20 cents). Lower per lb. were Indian whole RHUBARB at 32 cents (down 3 cents); whole GENTIAN at 15 cents (2 cents); Ceylon PAPAIN at \$3.50 (20 cents) with East African at \$3.85 (15 cents).

Higher per lb. among ESSENTIAL OILS were CEDARWOOD at 52 cents (up 5 cents); DILLWEED, at \$4.35 (5 cents); Ceylon CITRONELLA, 65 cents (5 cents) with Formosan at 75 cents (10 cents); and native LEMONGRASS, \$1.20 (20 cents). Lower per lb. were CLOVE at \$6.00 (down 50 cents); BERGAMOT, \$10.85 (15 cents); Floridian ORANGE, 68 cents (2 cents) with Californian at 72½ cents (7½ cents).

Pharmaceutical Chemicals

BARBITONE.—Dearer. Rates per lb. for 1-cwt. lots are 25s. 6d. The SODIUM derivative is 6d. per lb. more than the base.

BARIUM SULPHATE.—1-cwt. lots of B.P. (x-ray) are 1s. 5d. per lb. and 5-cwt. 1s. 4d. per lb.

BENTONITE.—Offers of B.P. material are about £70 per ton as to quantity.

BENZOCaine.—Minimum price for B.P. is 20s. 6d. per lb.

BENZOIC ACID.—1-cwt. lots are 3s. 0½d. per lb. The SODIUM SALT is 2s. 10½d. per lb. in 1-cwt. lots.

BISMUTH SALTS.—The following are the prices (per lb.) in largest bulk packages:—

	1-cwt.	28-lb.	7-lb.
	s. d.	s. d.	s. d.
CARBONATE ..	23 5	23 8	27 5
SALICYLATE ..	22 6	22 9	26 4
SUBGALLATE ..	21 8	21 11	25 6
SUBNITRATE ..	20 11	21 2	24 4

2-cwt. lots are 3d. per lb. less than the 1-cwt. rates. The present 1-cwt. rates for other salts are:—CITRATE, B.P.C., 22s. 8d.; NITRATE, crystal, 14s. 8d.; OXIDE, B.P.C., 27s. 7d.; OXYCHLORIDE, B.P., 27s. 9d.; OXYIODOGALLATE, B.P.C., 28s. 9d. and TRIBROMPHENATE, B.P.C., 26s. 9d.

BROMIDES.—Potassium, B.P., crystals in 5-cwt. lots is 2s. 8d. per lb.; 1-cwt., 2s. 9d. per lb. Powder is 1½d. per lb. more. AMMONIUM is 2s. 9d. per lb. in 5-cwt. lots and SODIUM, 2s. 7d. per lb.

CALCIUM PANTOTHENATE.—Price per kilo is £32 10s.

CHLOROFORM.—1-cwt. lots in winchesters are now 3s. 6d. per lb.; 56-lb., 3s. 6½d. In drums, prices are 3s. 4d. and 3s. 4½d.

CITRATES.—Rates (per lb.) are as follows:—POTASSIUM, 1-cwt. lots, 3s. 10½d.; 28-lb., 4s. 10d.; SODIUM, 1-cwt., 3s. 3½d.; 28-lb., 4s. 2d. (powder of both salts twopence more).

ERGOMETRINE.—For 20-gm. lots the price of the MALEATE, B.P., is £37 10s. per gm. and the TARTATE, £34 15s. per gm.

GUAIACOLS.—LIQUID, B.P., is 16s. 3d. per lb. for 28-lb. lots; CRYSTALS, 16s. 9d.; CARBONATE, 18s. 3d.

HEXOBARBITONE.—B.P. in 1-cwt. lots is 70s. per lb.

HYDROCYANIC ACID.—Dilute B.P.C. is from 1s. 4d. to 1s. 11d. per lb., as to quantity; Scheeles is from 1s. 8d. to 2s. 3d.

HYDROGEN PEROXIDE.—Manufacturers' price for single carboys of 20 volumes is 4s. 6d. per gall.

LITHIUM SALTS.—Current minimum rates (5-cwt.) are as follows:—BENZOATE, 10s. 6d. per lb.; CARBONATE, B.P.C., 10s. 9d.; CHLORIDE (commercial), 10s. 3d. to 10s. 6d.; HYDROXIDE, 10s.; CITRATE, B.P.C., 8s. 6d.; SULPHATE, 8s.; SALICYLATE, 9s. 3d. (10-cwt.), delivered.

MAGNESIUM HYDROXIDE.—Makers' prices for B.P.C. are: 1-cwt. lots, 3s. 5d. per lb. and 1-ton, 3s. 2d. per lb.

MAGNESIUM PEROXIDE.—Price (per lb.) for 1-cwt. lots of B.P.C. (15 per cent.) is 3s. 11d.

OXALIC ACID.—1-ton lots of British material are £138 per ton delivered.

PHENOBARBITONE.—Dearer. 1-cwt. lots are 25s. 6d. per lb.; SODIUM is 6d. per lb. more than above rates.

PHENOLPHTHALEIN.—Rate for 1-cwt. lots is 10s. 10d. per lb.

PHENYTOIN SODIUM.—Quotations for 1-cwt. lots are 27s. 6d. per lb.

PHYSOSTIGMINE.—Rates per oz. for 25-oz. lots are as follows: ALKALOID, 157s. 6d.; SALICYLATE, B.P., 118s. SULPHATE, B.P.C., 137s. 3d.

PILOCARPINE.—In 100-oz. (2½-kilo) lots prices are: HYDROCHLORIDE, 42s. 6d. per oz. (1,428s. 6d. per kilo); NITRATE, 38s. per oz. (1,340s. per kilo).

PIPERAZINE.—Quotations for HYDRATE are from 37s. 6d. per lb.

POTASH, SULPHURATED.—B.P.C. lump is 2s. 3d. per lb. for 1-cwt. lots.

POTASSIUM ACETATE.—B.P. is 2s. 8d. per lb. in 1-cwt. lots.

POTASSIUM BROMATE.—In 5-cwt. lots 7s. per lb. In small quantities the prices range up to 8s. 9d. per lb.

POTASSIUM CHLORIDE.—In 1-cwt. lots B.P. is 1s. 6d. per lb.

POTASSIUM HYDROXIDE.—B.P. sticks are from 6s. 6d. per lb.

POTASSIUM NITRATE.—Pharmacopœial quality is 145s. per cwt. (crystal, granular or powder) and commercial, 90s.

POTASSIUM PERMANGANATE.—Rates for B.P. material for 1-cwt. lots is 1s. 8½d. per lb., and for technical, 181s. 6d. per cwt.

PROCAINE HYDROCHLORIDE.—1-cwt. lots are 30s. per lb.

PYROGALLIC ACID.—Pure crystals are 18s. per lb. in 1-cwt. lots.

SACCHARIN.—In lots of 1-lb. and over B.P.C. powder is quoted at 98s. 10d. per lb., the SODIUM SALT is 80s. 10d. per lb. Prices include duty and carriage.

SALICYLAMIDE.—Price (per lb.) for 1-cwt. lots is 8s. 6d.

SALICYLIC ACID.—Prices are: 5-cwt. lots in bulk, 2s. 11½d. per lb.; 1-cwt., 3s.; 56-lb., 3s. 7d.

SALOL.—Quotations for B.P.C. are about 9s. per lb. for 1-cwt. lots.

SILVER SALTS.—NITRATE in 1,000-oz. lots is 4s. 0½d. per oz.; PROTEIN unchanged at from 36s. 3d. to 42s. 9d. and for VITELLIN from 68s. 6d. to 76s. 6d. per lb., as to quantity.

SODIUM CARBONATE.—B.P. exsiccated is 60s. 6d. per cwt.

THEOPHYLLINE.—ALKALOID is about 18s. per lb. and AMINOPHYLLINE, 19s. per lb. for 1-cwt. lots.

Crude Drugs

ACONITE.—Spanish napellus is 3s. 2d. per lb., duty paid, ex wharf.

AGAR.—Kobé No. 1 on the spot is now 15s. 9d. per lb.

ALOES.—Prime Cape on the spot is 170s. per cwt., shipment, 156s., c.i.f. Curaçao is offered at 330s. on the spot.

ANTIMONY.—English, 99.6 per cent., £222 10s.; 99 per cent., £210 per ton.

ARECA NUTS.—Quotations are firm at 50s. per cwt. for Ceylon material on the spot.

BALSAMS.—Quotations (per lb.) are:—*Canada:* According to holder from 21s. to 22s. 6d., spot. *Copaiba:* Soluble Para, spot, 12s. 6d. *Peru*, 8s. 9d. in bond. *Tolu* (genuine as imported), now 19s. 6d., spot, and 19s., c.i.f.

BELLADONNA.—A parcel of Jugo-Slavian root testing 0.44 per cent. is offered at 1s. 9d. per lb. on the spot, duty paid; LEAVES are from 3s. per lb., as to test.

BENZOIN.—Sumatra block No. 1 on the spot is £35 per cwt., nominal, supplies scarce.

BISMUTH METAL.—Minimum rate is 16s. per lb.

CAMPHOR.—Chinese (B.P.) powder remains scarce on the spot. Prices of $\frac{1}{2}$ -oz. tablets are 5s. 3d. per lb.; $2\frac{1}{2}$ -lb. slabs, 4s. 9d. per lb., duty paid. Synthetic powder is firm at 3s. 7d. per lb. for 100-lb. lots.

CAPSICUMS.—East African on stalk are 160s. per cwt., spot, and 135s., c.i.f., off stalk, 205s. and 170s., c.i.f.

CARDAMOMS.—Firm. Aleppy greens for shipment have advanced to 12s. 3d. per lb., c.i.f.; spot, nominal.

CASSIA BARK.—Whole on the spot is about 92s. 6d. per cwt., in bond, and for forward delivery, 82s. 6d., c.i.f. Broken, 67s. 6d. in bond, and 62s. 6d., c.i.f.

CHERRY BARK.—Scarce. Thin natural is from 1s. 10d. per lb., duty paid, and rossed, 2s. 3d., on the spot.

CINNAMON.—Ceylon for shipment 0000, 3s. 0 $\frac{1}{2}$ d. per lb., c.i.f.

CLOVES.—Unchanged. Zanzibar on the spot are 5s. per lb.; prompt shipment, 4s. 3d., c.i.f.

ELEMI.—Offers are from 1s. 9d. per lb. on the spot.

ERGOT.—Weak. Portuguese for prompt shipment is 17s. per lb., c.i.f. Spot is offered at 17s. 3d.

GUAIAECUM RESIN.—Quotations are about 3s. per lb. for spot material.

GUM ACACIA.—Kordofan cleaned sorts on the spot are 102s. 6d. per cwt. New-crop, March-April 1954, 93s. 6d., c.i.f.

HENNA.—Indian green leaves are at 90s. per cwt. on the spot and 65s., c.i.f., December - January shipment; brown leaves, 65s., spot. Sudanese are 100s., spot.

HONEY.—Australian light-amber is firm on the spot at 100s. to 110s. per cwt.; medium-amber, 90s. to 95s. Argentine is from 115s. to 120s. Jamaican unchanged at 120s. to 130s. All ex warehouse terms.

IPECACUANHA.—Nicaraguan for January shipment is easier at 49s. per lb., c.i.f.; Colombian, 48s. 6d., c.i.f. Spot: Matto Grosso, 46s.; Colombian, 51s.; Nicaraguan, 55s., scarce.

KARAYA.—No. 1 gum on the spot is quoted at 200s. per cwt.; No. 2 is 140s.

KOLA NUTS.—African halves are available on the spot at 4 $\frac{1}{2}$ d. per lb., 4d., c.i.f., for shipment.

LIQUORICE.—Natural whole root, spot; Anatolian, 55s. per cwt.; Russian, 40s.; Syrian, 37s. 6d. to 38s. Block juice quotations are 195s. per cwt., delivered. Turkish stick is 240s. and Italian stick, 475s. per cwt., both duty paid.

LOBELIA.—Herb is scarce on the spot. Nominal value 3s. 6d. per lb.

MACE.—West Indian pale blade is 7s. 9d. per lb., for shipment, 6s. 11 $\frac{1}{2}$ d., c.i.f.

MERCURY.—Nominal spot value is £61 15s. per flask (76 lb.), ex warehouse.

PEPPER.—Quiet. White Sarawak, 6s. 7d. per lb. paid for spot, and 6s. 5d., c.i.f., quoted for shipment. Black Sarawak, special quality, is 6s. 3d. per lb., spot and 5s. 10 $\frac{1}{2}$ d., c.i.f.; f.a.q., 6s. spot. Black Malabar is 870s. per cwt. spot and 740s., c.i.f.

QUILLAIA.—Whole bark is 140s. per cwt. on the spot. Cut is 160s.

RHUBARB.—Chinese of reasonably good quality is scarce on the spot and no offers from origin.

SEEDS.—**ANISE.**—Firm, Cyprus, 165s. to 167s. 6d. per cwt., spot London. No Turkish available. **CARAWAY.**—Dutch is offered at 96s. per cwt., duty paid, in London. **CELERY.**—Quiet. Indian on offer at 1s. 10 $\frac{1}{2}$ d. per lb., spot London. **CORIANDE.**—Steady. Spot; Moroccan, 55s. per cwt., duty paid; English, 70s. Shipment: Moroccan is about 42s. 6d., c.i.f., London. **CUMIN.**—Unchanged with little business reported. Spot, Cyprian 130s. per cwt.; Maltese 112s. 6d.; Moroccan, 127s. 6d., duty paid. **DILL.**—Indian is offered at 85s. per cwt. on spot. **FENNEL.**—Quiet. Indian, 140s. per cwt., spot London. **FENUGREEK.**—Firm. Only small quantities available on spot, 47s. 6d. per cwt., duty paid, quoted. **MUSTARD.**—English unchanged at 70s. to 85s. per cwt.

SERPENTARIA.—Root is offered at 40s. per lb. on the spot.

SHELLAC.—Spot quotations are:—F.O.T.N. pure 275s., nominal; F.O. standard No. 1, 285s.; fine orange, 290s. to 330s. per cwt., ex-London warehouse. **SLIPPERY ELM BARK.**—Spot material has been cleared. **SQUILL.**—Italian white on the spot is firm at 67s. 6d. per cwt. with replacements difficult. **STRAMONIUM.**—Indian LEAVES are 5 $\frac{1}{2}$ d. per lb., spot and European, 97s. 6d. per cwt.

STROPHANTHUS.—*Kombé*, 100 per cent. is about 11s. per lb., on the spot, and *Gratus*, 17s. 6d.

STYRAX.—Spot is 5s. 9d. per lb., duty paid.

TAMARINDS.—Quiet. Madras for shipment (1 per cent. stones), 67s. 6d., c.i.f.; (5 per cent.), 65s., c.i.f.

TRAGACANTH.—No. 1 ribbon on the spot is £105 per cwt.; No. 2, £85; No. 3, £65.

TURMERIC.—Rajapore, 125s. per cwt., paid for spot; Madras finger, 130s. New crop for March-April shipment is 85s., c.i.f.

UVA URSI.—Spot offers are about 85s. per cwt.,

VALERIAN.—Indian is 145s. per cwt. on the spot and from 130s. to 145s., c.i.f. Belgian, 185s., spot.

VANILLIN.—Rates (per lb.) are:—5-cwt. lots, 30s.; 1-cwt., 30s. 3d.; 56-lb., 30s. 6d.; smaller quantities, 30s. 9d.

WAXES.—**BEE.**—Dar-es-Salaam spot, 420s. per cwt., December-January shipment, 410s., c.i.f. Sudanese and Abyssinian, 370s., c.i.f.; spot, 415s., duty paid; Benguella, 385s., c.i.f., and 420s., duty paid. **CANDELLA.**—Spot is unchanged at 635s. per cwt. **CARNAUBA.**—Prime yellow on the spot is 1,100s. per cwt.; shipment, 1,000s., c.i.f.; fatty grey is 750s. on the spot; shipment, 705s. to 735s., c.i.f. as to position. **MONTAN.**—Reibek crude on the spot is 125s. per cwt. **OURICURI.**—Spot 0.5 per cent. impurities, 705s. per cwt. **SPERMACE.**—Case lots are about 1s. 9d. per lb.

Essential and Expressed Oils

ANISE.—Firm. Spot supplies are about 7s. 9d. per lb.; forward 7s. 9d., c.i.f., second-hand sellers; origin 8s. 3d., c.i.f.

BAY.—W. Indian is 8s. 6d. to 9s. per lb. on the spot.

BERGAMOT.—Spot value is about 82s. 6d. per lb.

BIRCH TAR.—Rectified is about 14s. per lb. in 1-cwt. lots.

CASSIA.—Original drums are about 13s. per lb. for spot and 10s., c.i.f.

CASTOR.—In minimum 2-ton lots the price of pharmaceutical quality for prompt delivery is £156 per ton, naked, ex mill in non-returnable drums. For January delivery the price is £148.

CEDARWOOD.—Spot quotations for African are from 4s. 9d. per lb.

CELERY.—Quotations are from 125s. per lb.

CHENOPODIUM.—1-cwt. lots are 65s. per lb.

CINNAMON.—B.P. oil on the spot is quoted at from 60s. per lb. English bark oil is offered from 23s. per oz. Ceylon leaf is from 9s. per lb.

CITRONELLA.—Firm. Prices (per lb.) are:—Ceylon, spot, 3s. 9d. per lb.; Java, 6s. 6d., duty paid; shipment, 5s. 9d., c.i.f.; Formosa, 5s. 9d., c.i.f.

DILL.—B.P. English-distilled oil is quoted at 60s. per lb. Imported oils are offered at from 30s. to 46s. per lb., as to origin.

EUCALYPTUS.—Drum lots of 70 to 75 per cent. eucalyptol on the spot are 5s. per lb., and 80 to 85 per cent., 5s. 6d.

FENNEL.—Spanish sweet on the spot is quoted from 9s. 6d. per lb.

GARLIC.—English is from 55s. to 60s. per oz.

GERANIUM.—Bourbon on the spot is 79s. per lb. Shipment, 76s., c.i.f.

GINGER.—English-distilled oil is from 120s. per lb. Imported oils are available at from 65s. per lb.

HYDNOCARPUS.—Spot is offered at 2s. 2d. per lb.

JUNIPER BERRY.—Imported oils are offered at 17s. 6d. per lb., duty paid. English-distilled is offered at 75s. to 80s. per lb.

LEMONGRASS.—Firm. East Indian is 8s. on the spot and from 7s. 10 $\frac{1}{2}$ d. to 8s. 3d. per lb., c.i.f.

NUTMEG.—English-distilled oil is from 42s. 6d. to 44s. per lb. Imported oil is offered at 25s. per lb., duty paid for drum lots.

OLIVE.—Pharmaceutical oil in drums is from 23s. to 23s. 6d. per gall. on the spot, ex warehouse. French new-crop oils are not yet quoted from origin. Spanish virgin is offered on the basis of £214 per 1,000 kilos, f.o.b. Spanish ports, subject to export licence.

PEPPERMINT.—*Arvensis.* Chinese is about 21s. per lb., spot and 18s., c.i.f., December-January shipment; Brazilian (45 per cent.), 14s. 3d. spot; forward, 13s. 6d., c.i.f. Italian "Mitcham" type oil is 52s. 6d. per lb., for best quality on the spot.

ROSEMARY.—Spanish oil on the spot is about 5s. 9d. per lb., duty paid, for B.P. quality.

RUE.—Spot offers are from 12s. 6d. per lb.

SAGE.—Spanish is offered at from 9s. per lb., spot.

SANDALWOOD.—Mysore is 70s. per lb. for 7 x 25-lb. tins.

SPEARMINT.—Offers of B.P.C. quality are from 57s. 6d. per lb.

VETIVERT.—Bourbon in original drums on the spot is about 110s. per lb.

WORLD TRADE

Hungary to Grow Pyrethrum.—Large-scale growing of pyrethrum has begun on the experimental farm of Akál, near Lake Balaton, Hungary.

U.S. Mustardseed Imports.—The United States Tariff Commission has refused a request to increase tariffs on imports of whole mustard seeds.

Chilean/West-German Trade.—A trade agreement between Chile and West Germany that will be valid until the end of 1954 has been signed. The agreement provides for the exchange of goods to the value of \$35 millions each way. Chemicals feature in the list of goods to be provided by Germany.

Austrian Customs Tariffs.—New customs tariffs affecting about thirty-five positions of the tariff list are expected to be introduced in Austria early in 1954. The changes will generally affect new products that have had little or no tariff protection. They include certain chemicals and penicillin.

Thailand's Import Regulations.—Under a decree that became operative on November 16, import controls are imposed in Thailand. Among the goods now requiring a permit from the Minister of Economic Affairs are the following:—Beeswax, chemicals, including alcohol, glycerin, turpentine, pharmaceutical and medical products, perfumes, perfumery, toilet articles, soap and sanitary goods.

U.S. Sulphur Mine in Production.—Production has started at the Freeport Sulphur Co.'s new salt dome mine beneath Garden Island Bay, near the mouth of the Mississippi river. The undertaking, which cost \$14 millions, is expected to yield 500,000 long tons of sulphur annually at peak operation. It is said to be the largest single sulphur mining development carried out anywhere in the world since 1933.

Licences for Synthetic Fibre.—Imperial Chemical Industries, Ltd., have licensed two companies in Western Germany: Farbwerke Hoechst, A.G., Frankfurt, and Vereinigte Glanzstoff-Fabriken, A.G., Wuppertal-Elberfeld, to manufacture their synthetic textile material Terylene. Western Germany thus becomes the third European country to take up the fibre, Italian and French companies having already received licences. In Canada a £7,000,000 Terylene plant is under construction by I.C.I. of Canada, Ltd.

Australian Import Restrictions.—It is expected in Canberra that the lifting of all restrictions on imports from sterling areas will be announced towards the end of December. Restrictions on dollar and Japanese imports may be reviewed, but probably not abolished. Customs officials have been preparing recommendations on the imports position to the Cabinet meeting due to be held in Melbourne on December 18. Import problems and the future of the licensing system have already been examined by the National Security Resources Board. It is understood that the lifting of restrictions on imports from the sterling countries would be achieved in two steps, the first of which may come in January 1954 and the second in April 1954.

TRADE MARKS

From the "Trade Marks Journal," December 2
For medicated soporific preparations for human use (5)
SEKUNDAL, 715,856, by Max Woelm, Lothar Woelm and Horst Woelm, Eschwege, Germany.

For medicated preparations for internal human use (5)
TISPOLE, 715,857, by Max Woelm, Lothar Woelm and Horst Woelm, Eschwege, Germany.

For medicinal preparations for the treatment of obesity (5)
ADIPOSETTES, B716,997, by Dr. Rudolf Reiss Chemische Werke, Berlin.

For medicated preparations containing digitalis for human use (5)
EUPHYDIGITAL, 718,111, by Byk-Guldenwerke Chemische Fabrik, A.G., Berlin, Germany.

For insecticides (5)
FOLIDOL, 719,413, by Farbenfabriken Bayer A.G., Leverkusen, Germany.

For antibiotic and antibacterial preparations (5)
FURADANTIN, 721,409, by Eaton Laboratories, Inc., New York, U.S.A.

For medicated lemon-flavoured beverages (5)
FONDALEM, 722,123, by Gilbert Roberts Lane, Gloucester.

For disinfectants (5)
DELEGOL, 723,241, by Farbenfabriken Bayer A.G., Leverkusen, Germany.

For devices for massaging the finger nails (10)
NUTRINAIL, 721,935, by L.M.S. Products, Ltd., Glasgow.

For shields made of indiarubber for protecting the face when washing the hair (21)
BRIGHT EYES, 721,532, by Morris Rubber Industries, Ltd., Byfleet.

For hair curlers, pins and grips (26)
STARLITE, 722,000, by Newey Bros., Ltd., Birmingham.

From the "Trade Marks Journal," December 9
For artificial sweetening substances (1)
SAXOL, 722,524, by Harrogate Pharmaceuticals, Ltd., Bridgend, Glamorgan.

For perfumes (3)
CHARNY, B702,379, by W. Sutton & Co. Druggists' Sundries, London, Ltd., Enfield.

For non-medicated toilet preparations (3)
ENNA, 721,745, by Enna, Ltd., Greenford.
KEGGO, 723,126, by J. C. & J. Field, Ltd., Amersham.

For preparations for rinsing articles made of Nylon to increase durability and prevent laddering (3)
LADNOT, 721,971, by Laddernot Products, London, W.11.

For all goods (3)
SOFFIT, 722,250, by Reckitt & Coleman, Ltd., Hull.

For pharmaceutical preparations, adhesive plaster, lint and bandages (5)
Device of two lions holding shield bearing the letter B, 716,924, by Aktiebolaget Bofors, Bofors, Sweden.

For all goods (5)
ARETUS, 718,519, by Chemische Vertriebsgesellschaft m.b.H. Gereco, Frankfurt-am-Main, Germany.
ANASTREPTO, 723,246, by Lepetit S.p.A., Milan, Italy.

For pharmaceutical preparations (5)
RHENANIA, 718,539, by Kali-Chemie A.G., Hanover, Germany.
FITOPUL, 722,756, by Evans Medical Supplies, Ltd., Liverpool.
VIREDRIN, 723,514, by Clinical Products, Ltd., Richmond, Surrey.

For barbituric drugs (5)
CYCLOMET, 720,524, by British Ethical Proprietary, Ltd., Taunton.

For rodenticides (5)
MURITAN, 721,182, by Farbenfabriken Bayer, A.G., Leverkusen, Germany.

For disinfectants (5)
MILSOL, 723,024, by Milton Antiseptic, Ltd., London, N.7.
MILLENDOL, 723,550, by London Grocers, Ltd., London, E.14.

PRINT AND PUBLICITY

Medical Propaganda

Manufacturers' leaflets, folders, booklets, etc., directed to doctors but available to pharmacists.

BENGUE & Co., LTD., Mount Pleasant, Alpert, Wembley, Middlesex: "G.T.50—A Logical Remedy for Rheumatoid Arthritis."

BOOTS PURE DRUG CO., LTD., Station Street, Nottingham: "Viules Pro-Stabillin A.S.", "When Does 5 per cent. Sulphacetamide Supersede 30 per cent. Sulphacetamide?" (4-p. leaflets). "Insulin Zinc Suspensions" (8-p. booklet).

CIBA LABORATORIES, LTD., Horsham, Sussex: "Sublingual Hormone Therapy with Linguets" (8-p. booklet).

PHARMACEUTICAL LABORATORIES GEIGY, LTD., Rhodes, Middleton, Manchester: "Facts About Butazolidin" (4-p. leaflet).

RIKER LABORATORIES, LTD., 29 Kirkewhite Street, Nottingham: "Rauwiloid and Rauwiloid plus Veriloid" (8-p. booklet).

Periodicals

ROCHE PRODUCTS, LTD., Welwyn Garden City, Herts: "The Roche Courier," Vol. 19, No. 8, 1953, pp. 4.

THE CHEMICAL SOCIETY, Burlington House, London, W.1: "Current Chemical Papers." A monthly classified world list of new papers in pure chemistry. Entries will include titles of papers (expanded where necessary), the authors' names and the references to the original journal. From January 1954, to Fellows, £1 5s.; to others, £2 10s. Offprints of individual papers published in the Society's Journal will, from January 1954 be available from the Society at 5s. each. Voucher schemes are also available.

Price Lists

AYRTON, SAUNDERS & Co., LTD., Hanover Street, Liverpool, 1: A new price list is in production. It is in two parts: drugs and bulk tablets; sundries, packed goods, etc. The first part will be ready early in January, the second part some two months later.

PHARMACEUTICAL SPECIALTIES (MAY & BAKER), LTD., Dagenham, Essex: "Price List of M. & B. Medical Products, 1954," pp. 79 plus index.

POTTER'S (HERBAL SUPPLIES), LTD., Douglas Works, Leyland Mill Lane, Wigan, Lancs: "Price List of Products," pp. 35.

Advertising Campaigns

BEECHAM (NORTHERN), LTD., St. Helens, Lancs: Veno's Lightning cough mixture in national popular newspapers and big circulation weeklies.

BENGUE & Co., LTD., Mount Pleasant, Alpert, Wembley, Middlesex: Mail, Press and personal propaganda for Bornolin.

BIOMETICA, LTD., Bullhead Road, Boreham Wood, Herts: The 1954 campaign of magazine advertising of Nycol ladderstop commences on January 9, 1954.

SPANISH INSTITUTE FOR OLIVE OIL PROPAGANDA, Sagasta 13, Madrid: For Spanish olive oil in Daily Mail, Evening News, Sunday Dispatch, and Daily Sketch.

LOCAL OFFICERS

London County Pharmaceutical Association.—President, Mr. H. R. Edgecombe; Vice-president, Mr. Clifford Evans; Secretary, Mr. W. F. Wilkinson, 233 Bank Chambers, 329 High Holborn, London, W.C.1.

Portsmouth and District Chemists' Association.—President, Mr. M. A. Guernier; Vice-president, Mr. R. J. Berry; Treasurer, Mr. A. L. Harris; Association Representative to Local Chamber of Commerce, Mr. P. G. Howes; and Secretary and Proprietary Articles Trade Association Local Secretary, Mr. J. C. Bloomfield, 185 Fratton Road, Fratton, Portsmouth.

National Pharmaceutical Union

Plymouth Branch.—Chairman, Mr. K. J. Wadge; Vice-chairman, Mr. L. T. Warn; Secretary, Mr. W. F. E. Eustace, 8 Edgcombe Street, Stonehouse, Plymouth; Treasurer, Mr. P. Cohen.

Winter

PREPARATIONS

BRONCHIAL EMULSION

*A best-seller throughout
the winter season*



Carriage Paid
outside normal
delivery area
on orders of
£5 and over.

In wide mouthed
Amber Ovals.
OWN NAME
printed on
orders for three
dozen or more.

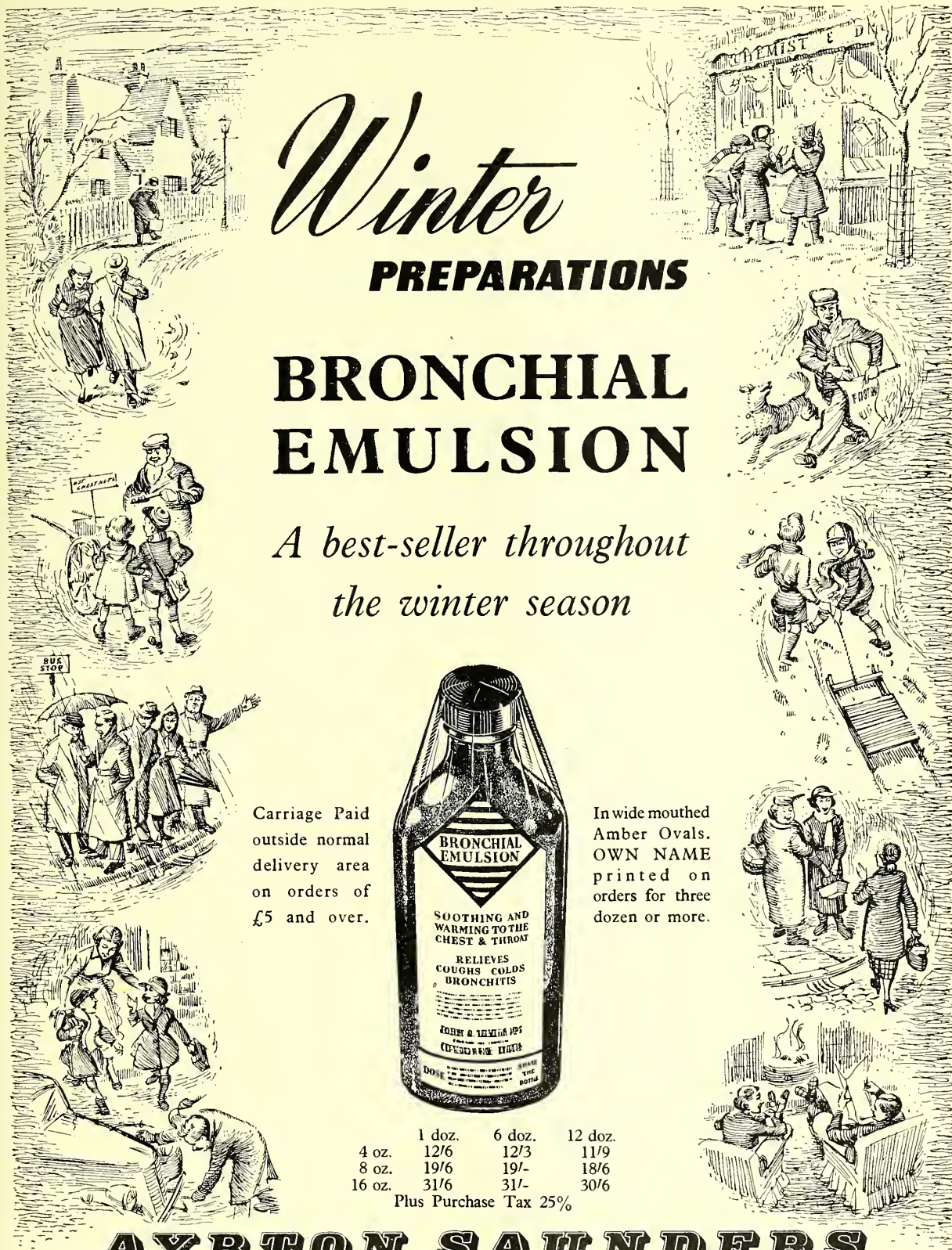
	1 doz.	6 doz.	12 doz.
4 oz.	12/6	12/3	11/9
8 oz.	19/6	19/-	18/6
16 oz.	31/6	31/-	30/6
Plus Purchase Tax 25%			

AYERTON SAUNDERS

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HANOVER STREET · LIVERPOOL

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A Great National Advertising Campaign to Sell more Spanish

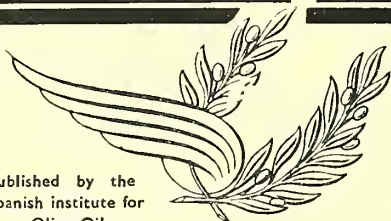
Olive Oil

AS you yourself will have discovered, Olive Oil is becoming more and more popular with British housewives. The time is, in fact, ripe for a publicity drive to increase sales and bring correspondingly extra profits to the stockist.

● In this country, there is a very wide market for this excellent product as yet unexploited: it calls only for sound and intensive publicity to proclaim the unique virtues of Olive Oil—especially SPANISH Olive Oil from which the bulk of the present sale results—in order to create an enormous number of new, regular customers.

● Just such a campaign has now started. In order to obtain maximum coverage of the most suitable cross-section of the British public, it has been decided to concentrate on four great advertising media: the *Daily Mail* and *Daily Sketch*, each with its own distinct and valuable circulation, the *Sunday Dispatch* appealing to a further very receptive community, and the *London Evening News* with its huge readership in the densely populated area in and around London. Together, these are telling the story of Olive Oil to more than seven million potential customers each week. See your wholesaler without delay and make sure you are equipped, right from the start, to cater for the new and growing demand.

Published by the
Spanish Institute for
Olive Oil
Propaganda.



EACH WEEK

more than

7,000,000

**families are learning good reasons
for using more**

OLIVE OIL

**Below are the four great British
newspapers carrying the new series
of convincing advertisements—to-
gether with their approximate
circulations in round figures:—**

DAILY MAIL 2,200,000

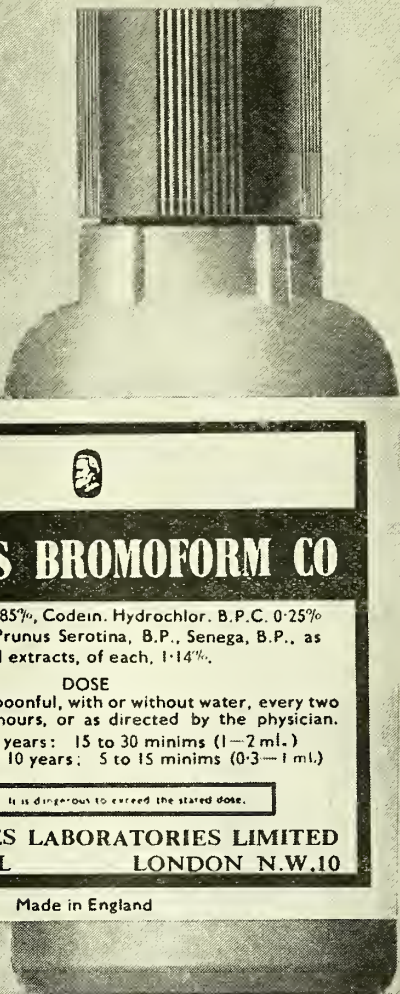
**The EVENING NEWS
1,500,000**

**SUNDAY DISPATCH
2,700,000**

DAILY SKETCH 800,000

*That
Winter
Cough*

Rx



CROOKES BROMOFORM CO

Bromof. B.P.C. 0.85%, Codein. Hydrochlor. B.P.C. 0.25%
Krameria, B.P., Prunus Serotina, B.P., Senega, B.P., as
liquid extracts, of each, 1.14%.

DOSE
ADULT: One teaspoonful, with or without water, every two
to four hours, or as directed by the physician.
CHILDREN. 10-15 years: 15 to 30 minims (1-2 ml.)
Under 10 years: 5 to 15 minims (0.3-1 ml.)

Caution: It is dangerous to exceed the stated dose.

THE CROOKES LABORATORIES LIMITED
PARK ROYAL LONDON N.W.10

Made in England

The combined sedative action of Bromoform and Codeine, together with extracts of Senega, Krameria and Wild Cherry, give relief both to congestion and rawness in the chest. Control and limitation is the purpose of this preparation which is pleasant to take and suitable for patients of all ages.

CROOKES BROMOFORM CO



Bottles 2 oz. 4/8, 4 oz. 8/2, 16 oz. 26/-

PATA



THE CROOKES LABORATORIES LIMITED • PARK ROYAL • LONDON • N.W.10

Another best-seller!

GREAT NEWS! Here's yet another sure-fire selling certainty from Maw's — obtainable as always "from chemists only" — the Dinky Feeder. Whether a baby is naturally fed or not, the unique Dinky Feeder is a boon from birth right through babyhood.

The Dinky Feeder is the ideal way of giving orange-juice, medicine or a soothing drink. A unique miniature feeder and pacifier — all in one!



Mothers of young infants will thank you for introducing them to the Dinky. You will find it a brisk and profitable seller.



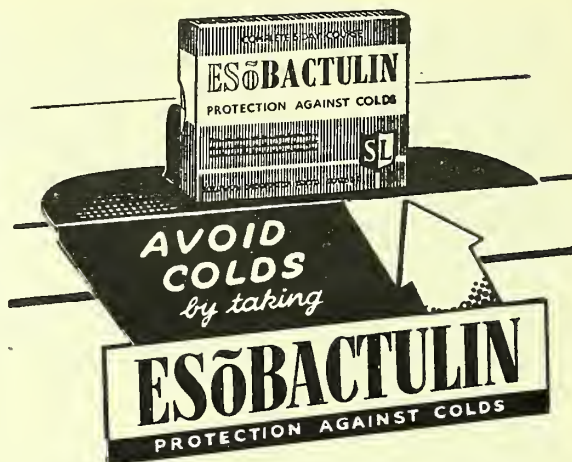
DINKY FEEDER

Retail price, in carton complete with cleaning brush, *One dozen, in attractive display outer,*

1'9

14'.

*S Maw Son and Sons Limited
Barnet England*



A REMINDER

Now is the time to remind your customers about ESOBACTULIN—if they are to remain free from colds this winter.

DISPLAY NOW AND GET RESULTS

Retail Price 7/10½d. inc. P. Tax.

33½% Discount plus Bonus 13 to the dozen.

Supplied through your usual Wholesaler.

SOUTHON LABORATORIES LTD.

84-88, UPPER RICHMOND ROAD, LONDON, S.W.15



BIOPAR TABLETS

VITAMIN B₁₂ AND INTRINSIC FACTOR



EFFECTIVE ORAL REPLACEMENT
FOR INJECTABLE VITAMIN B₁₂

Bottles of 30, 60 and 500

Write for Literature to:

THE ARMOUR LABORATORIES
(ARMOUR & COMPANY LTD)

LINDSEY STREET, LONDON, E.C.1

Telephone: Clerkenwell 9011
Telegrams: "Armosata-Phone," London

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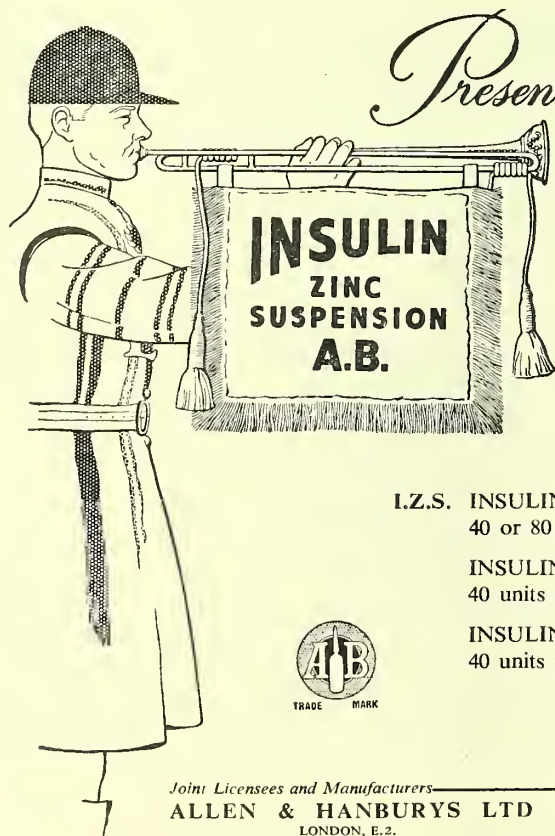


Volpar Gels Bottle of one dozen — Pharmacists 1/8 Retail 2/6 ★ Volpar Paste Collapsible tubes — Pharmacists 1/8 Retail 2/6
 Volpar Paste and Applicator — Pharmacists 4/- Retail 6/-

THE BRITISH DRUG HOUSES LTD. • LONDON • N.I

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Presenting **I.Z.S.**

With I.Z.S. the new type of insulin with zinc, rapid onset of effect with prolonged action is provided. I.Z.S. enables satisfactory control of the blood-sugar level to be achieved in about 90% of diabetics by one injection daily.

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I.Z.S. INSULIN ZINC SUSPENSION A.B.

40 or 80 units per c.c. Vial of 10 c.c. *Duration of action—24 hours.*

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40 units per c.c. Vial of 10 c.c. *Duration of action—up to 30 hours.*



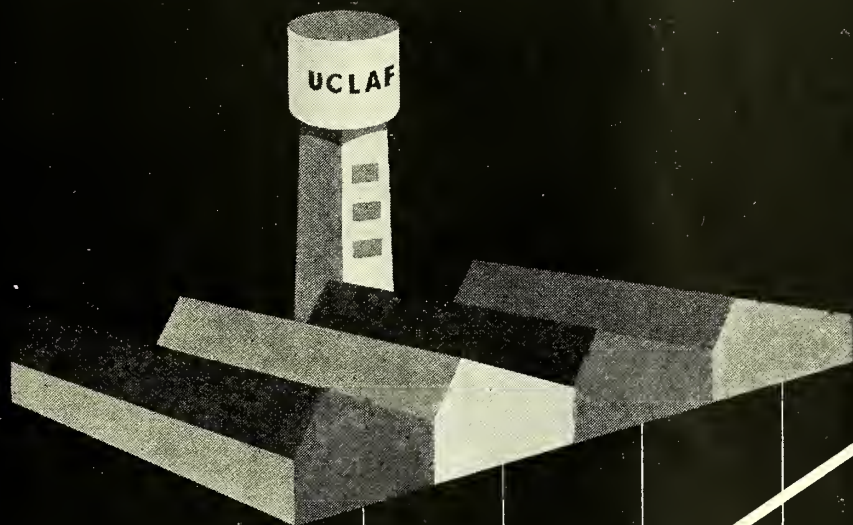
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Joint Licensees and Manufacturers

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LONDON, E.2.

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LONDON, N.1.

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CAN SUPPLY

SYNTHETIC DRUGS
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AND HORMONES

AMINO-ACIDS
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AND ENZYMES

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BIOLOGICAL
PRODUCTS



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Christmas Greetings in Coronation Year



ARTHUR H. COX & CO. LTD. BRIGHTON

THE HEALTH LAMP SENSATION
OF THE SEASON!

The

Barber MODEL 365

★ **Combined**

**ULTRA-VIOLET &
LUMINOUS HEAT**

- ★ High Pressure Quartz Tube
- ★ 650 watt luminous heat generators
- ★ Operates on A.C. or D.C. 200/250 volts

STOCKED BY LEADING WHOLESALERS

Send for details and list of approved Wholesale Stockists.



Also available

The POPULAR Infra Red Lamp
price 90/-

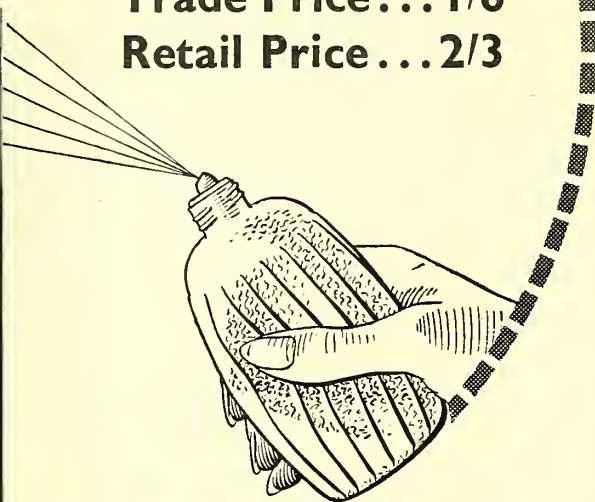
BARBER ELECTRICAL SERVICES LTD., LEACH STREET, B'HAM. 16

NOW! PERFECTION IN POLYTHENE

A Poly-Tainer
for
**LOTIONS,
LIQUIDS AND
POWDERS**

This unbreakable atomiser spray and powder puffer is perfect for toilet water and talcum powder. The new design spray attachment is easily removed for refilling and needs no adjustment. Attractively styled in pink translucent polythene with pleasing fluted and stippled texture finish.

Trade Price... 1/6
Retail Price... 2/3



Polythene containers that sell on sight

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Manufactured by: E. SHIPTON & CO. LTD., Ferndown Works, Northwood Hills, Middlesex. Tel: Pinner 1103/5

VAPEX medicated RUB —a brand-new product from an old-established

VAPEX medicated **RUB**



will be advertised in the
following papers and periodicals
starting in December



rm

SUNDAY PICTORIAL	<i>circulation</i> 5,263,000
DAILY MIRROR	<i>circulation</i> 4,536,000
VEVILLE	<i>circulation</i> 3,700,000
WOMAN'S OWN	<i>circulation</i> 2,124,000
WOMAN'S WEEKLY	<i>circulation</i> 1,800,000
ICTURE POST	<i>circulation</i> 1,059,000

*** Please ask our
representative, or
write direct for details
of special bonus terms.**

Vapex Medicated Rub is made by the makers of Vapex Inhalant & Inhaler

AN *Endearing* GREETING
TO OUR CUSTOMERS

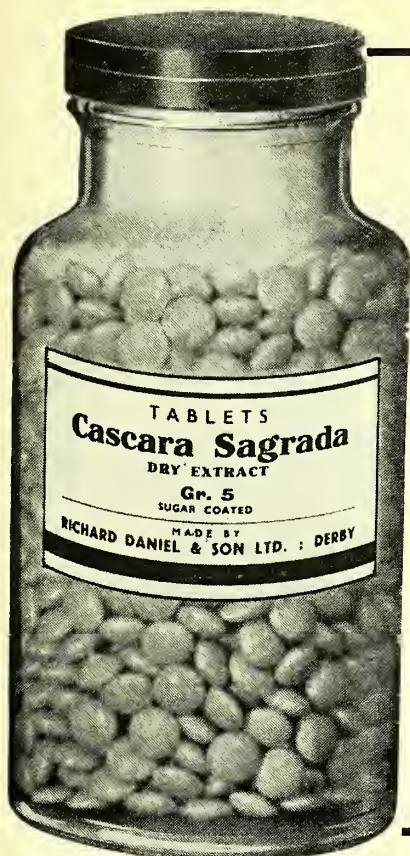
A very Merry Christmas
and a Happy New Year

AND MAY THEY BOTH BE AS GAY

AS AN *Evening in Paris*

BOURJOIS

Bourjois Limited, Queen's Way, Croydon, Surrey



TABLETS of QUALITY

*Manufactured by
modern machinery
under skilled supervision*

Quotations for large or small quantities

RICHARD DANIEL & SON LTD
MANUFACTURING CHEMISTS

MANSFIELD ROAD **DERBY** TEL. 48266 (4 lines)

AND AT GROSVENOR STREET, ASHTON-U-LYNE. TEL. 2816 (3 lines)



Baby take a bow!

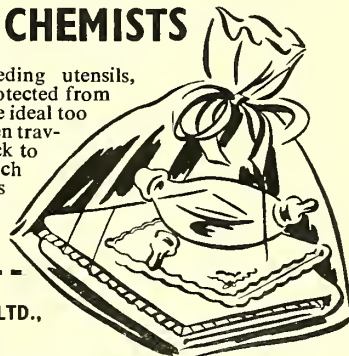


HYPAK *Nursery Bags.*

BRAND REGISTERED TRADE MARK

CREATE RECORD SALES FOR CHEMISTS

Hypak Nursery Bags keep Baby's feeding utensils, clothes, toys and bed linen completely protected from all germs, dust, dirt and dampness. They're ideal too for carrying soiled nappies and clothes when travelling or visiting. Mothers have been quick to realise the advantages of this new line which is making up record sales in Chemists everywhere. Hypak Nursery Bags are in an attractive pack consisting of six assorted sizes. Retail price is 4/9 per pack.



To HYPAK Division of
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As a _____ I am interested in HYPAK Nursery Bags.
(insert Retailer or Wholesaler)

Name _____

Address _____

My normal wholesaler is. Name _____

(for retailers only) Address _____

Dull hair becomes *Radiant*

Grateful women everywhere are finding Four-in-One the effective answer to hair that is dull, faded or just showing the first grey touches. Easy to use—it can be applied in a few minutes like a shampoo—Four-in-One not only restores full natural colouring in a single application, but conditions the hair to soft, silky loveliness at the same time! Available in *twelve* glamorous shades ranging from Blue Black to Smoke Blonde.



Attractive descriptive booklets 'Begone Dull Hair' are available for counter distribution.

INECTO
Four-in-One

PRICES

Small size (1A & 1B bottle) 2/6 wholesale (plus P.T.), retailing at 5/6.

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If you are not already stocking Inecto, the magic name in hair colouring, write at once for full particulars.

INECTO ENQUIRY BUREAU
27 DOVER STREET, LONDON, W.1
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TO ALL PHARMACISTS

BORNOLIN

A NON-ADHERING TREATMENT
FOR BURNS AND SCALDS

Energetic Mail, Press and Personal Propaganda is maintained, from which an ever increasing demand is resulting. We therefore seek your co-operation in its distribution.

PRICE TO YOU 27/- doz.
RETAILING AT 3/- per tube

1lb. Jars for Dispensing only—20/- each net.



BENGUE & CO. LTD. PATA

Manufacturing Chemists

MOUNT PLEASANT, ALPERTON, WEMBLEY, MIDDLESEX

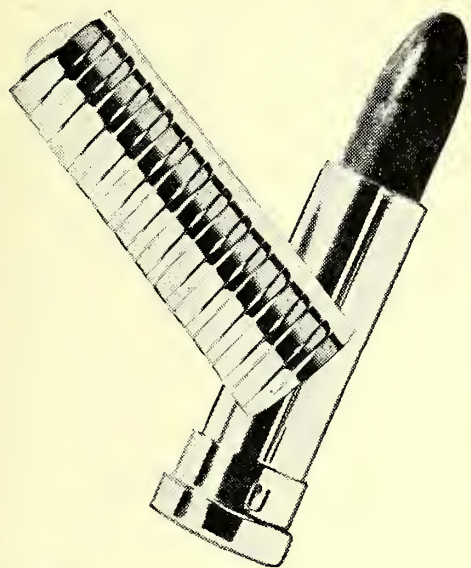
For acidosis...
recommend

Rayner's
Lembar
all the year
hot or cold



Lemons
Glucose
Scotch Barley
Sugar

MADE BY RAYNER AND COMPANY LIMITED, LONDON, N.1



Yardley announce

the new colour

for the New Year

Rose Coral

Available to you on January 1st — a fashion-creating new colour of lipstick and cream rouge — **Rose Coral**. To be featured in Yardley advertisements throughout the national and provincial press. Handsome showcards will be ready for your displays. Don't be surprised if you get enquiries for the Yardley Rose Coral shade prior to the New Year. We have paved the way to a big demand by sending the members of our Teen Age Club (who can now be numbered in thousands) a Christmas present of a miniature Rose Coral lipstick. Tell your customers you will have stocks early in the New Year !

YARDLEY



BLUE printed cartons
for cotton wool
GREEN for white lint
RED for boric lint
MAROON for gauze

DON'T LAG BEHIND!

Be right up to date in 1954 with
Certor Surgical Dressings in
cartons.

*SALES ARE SOARING
because the packs are pleasing*

Certor

SURGICAL DRESSINGS in cartons

are finding their way into more and more pharmacies—proof
that this modern, distinctive, range of dressings is meeting
the present-day needs of the chemist.

"FAR SUPERIOR"

Extract from a letter from one firm of chemists:

*"We are converting our entire dressings stock over to
your packs, and find them far superior from a storage
and display point of view."*

23rd November, 1953.

MACDONALD & SON LTD · HOPE MILLS · POLLARD STREET · MANCHESTER 4

**THERE'S ALWAYS A
CUSTOMER FOR JOHN BELL'S
COLD CAPSULES**



Few will get through this winter without
having had a Cold, Feverish Chill or Influenza.
Order supplies today for the many who will
certainly ask for

JOHN BELL'S COLD CAPSULES

Display the handy pack and get the maximum benefit
from impulse sales.

BONUS DISPLAY TERMS

13 for every dozen on orders of 3 dozen and over:
attractive display stands supplied.

Retail price 1/10d. (Inc. Tax)
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Trade 11/6d. per dozen.
(P. Tax 2/10½d.)

JOHN BELL, HILLS & LUCAS LTD.
Oxford Works, Worsley Bridge Road, London, S.E.26

from
KIRBY



*Best Wishes
for Christmas and
the New Year*

H. & T. KIRBY & CO., LTD



*To all our
Customers &
Friends*



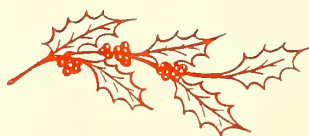
of

LONDON

ESTABLISHED 1866



The Directors and Staff
of Sangers Ltd.
and their associated Companies
wish you a
Very Happy Christmas
and a
Successful year
in 1954





To all our many friends throughout the
World we send this traditional greeting
coupled with our very best wishes for 1954

from

CHAS. H.
WINDSCHUEGL LTD.
1 LEADENHALL STREET, LONDON, E.C.3



POTTERS wish their trade friends
joy at Christmas and
prosperity in 1954

POTTER & CLARKE LIMITED • River Road • Barking • Essex

Morny
OF REGENT ST. LONDON

send
Christmas Greetings
and their best wishes for a
Prosperous New Year
to all their
Friends in the Trade



A Merry Christmas
and a
Happy New Year
to all our customers



FERRIS & CO LTD
BRISTOL
Telephone : 21381



Telephone:
MAN. HOUSE 6877
5 Lines

A. REVAI & CO. LTD

7-8 IDOL LANE
LONDON, E.C.3.

send you

Greetings

**a merry
Xmas**

**THOMAS
HARLEY Ltd.**

take this opportunity of expressing their
thanks to all their customers for their
support during the past year and wish
them a happy Xmas and a prosperous
1954.

RODINE WORKS,
SOUTH METHVEN STREET · PERTH · SCOTLAND

M+P

The M + P organisation
extend seasonable greetings
to all their Pharmaceutical
friends everywhere, plus every
good wish for a busy and
prosperous year in 1954.

**MAWSON & PROCTOR
PHARMACEUTICALS LTD**
LOW FRIAR LANE, NEWCASTLE - ON - TYNE 1.
Telephone : 27074 (5 lines)

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TABLETS
of all kinds

Seasonal Greetings to all our Friends in the Trade

from

BUCKLEY BOWKER TABLET CO. LTD.

29 PARKFIELD STREET, LONDON, N.1.

Quotations
gladly
submitted



LOOK TO
BARTLETT'S
SUNGLASSES
 for your 1954 best sellers

**4 BIG SELLING
 STYLES**

P.55

*Child's Sunglass—
 Crookes Lenses.*

Retail Price: 10½d.



P.58

*New popular style
 for men or women.
 Crookes Lenses.*

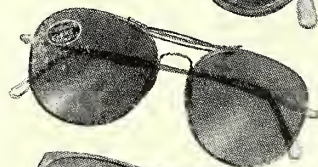
Retail Price: 1/6d.



M.10

*Metal frame in pilot-
 type. 3 styles.
 Crookes Lenses.*

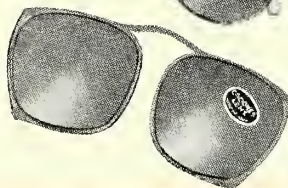
Retail Price: 4/6d.



P.60

*Nylon framed over-
 specs, carded sixes.
 Crookes Lenses.*

Retail Price: 1/6d.



Bartlett's 'Protector' Sunglasses are your logical choice for the coming season. Bartlett's gave you 1953's largest seller (M.1. metal-frame pilot type sold over 500,000 pairs) and the 1954 range will include many more winners — everything that's new in British, French, and Italian styles, new colours, new materials. Yes, you'll be wise to look to Bartlett's 'Protector' Sunglasses for bigger business in 1954.

**ORDER FROM YOUR
 USUAL WHOLESALER**

ALFRED FRANKS & BARTLETT CO. LTD.,

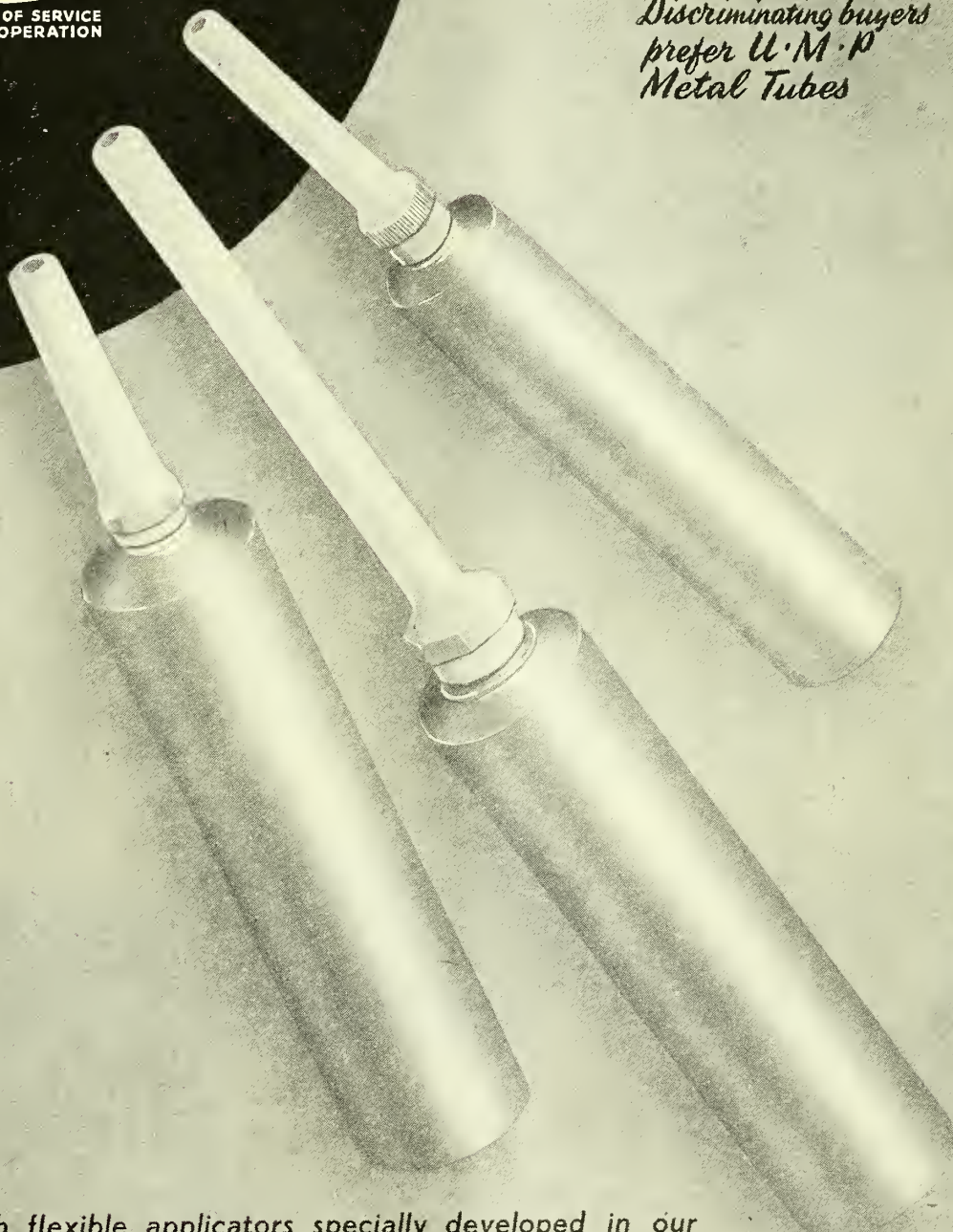
226/8 Grays Inn Road, London, W.C.1. Telephone: TERminus 9865/8

(ALL WHOLESALE ENQUIRIES TO THIS ADDRESS PLEASE)



THE SIGN OF SERVICE
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*Discriminating buyers
prefer U.M.P.
Metal Tubes*



Smooth flexible applicators specially developed in our
PLASTICS DIVISION for rectal and vaginal use

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SALFORD 6 LANCs. Telephone: PENDLETON 1631-2-3

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Papaverine Alkaloid B.P.C.

Papaverine Hydrochloride B.P.

Papaverine Nitrite

Papaverine Sulphate

Barbonin (Ethyl Papaverine)

Barbonin Hydrochloride
(Ethyl Papaverine Hydrochloride)

Quality Drugs
marketed by

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Telegrams: Wosmater Ave London.
Cables: Wosmater, London



STAINLESS STEEL MIXER

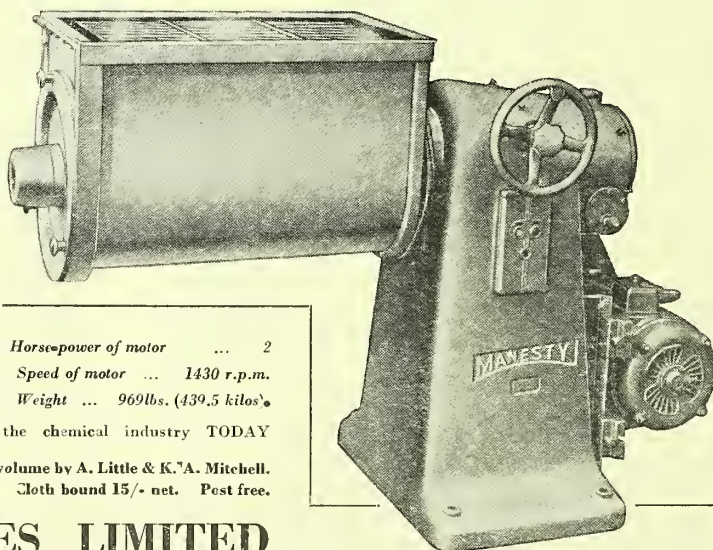
The MANESTY 'H' Stainless Steel Mixer has been designed for the intimate mixing of powders or moist masses and is especially suitable for tablet granulation. The powerful geared drive and sturdy paddle make the MANESTY 'H' Mixer ideal for dealing with difficult or sticky ingredients.

SPECIFICATION:

Capacity	... approx. 100lbs. of powder (45.36 kilos).	Horsepower of motor	... 2
Height	... 3ft. 6in. (105 cm.).	Speed of motor	... 1430 r.p.m.
Floor space	5ft. 7in. by 2ft. 6in. (170.18 cm. by 76.04 cm.).	Weight	... 969lbs. (439.5 kilos).

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MANESTY MACHINES LIMITED

DEPT. 5

SPEKE

LIVERPOOL 19

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The 'H' Stainless Steel Mixer.
Transparent plastic lid.
Safety guard. Tilts to empty.

TABLET MACHINES

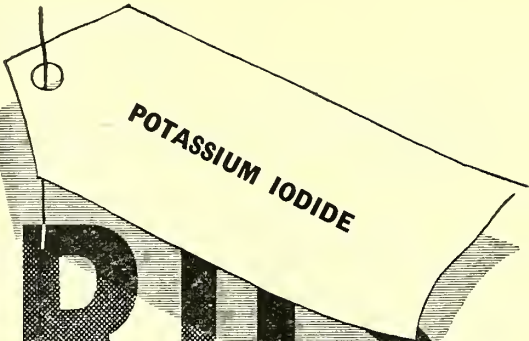
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MIXERS

GRANULATORS

PUNCHES & DIES

HOWARDS OF ILFORD



POTASSIUM IODIDE



SODIUM IODIDE



IODINE RESUBLIMED



IDOFORM



ESTABLISHED 1797

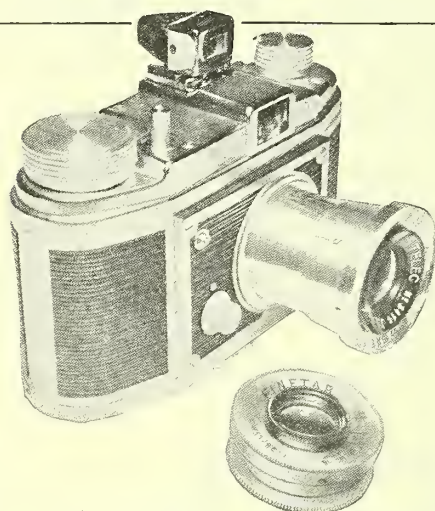
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under strictest analytical control*

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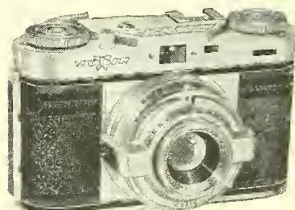
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ONLY FINETTA OFFERS
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FOR LESS THAN £40



Finetta 88 with f2.8 £22 17 2
Telephoto 9cm. (Bayonet fitting for 88, screw for earlier models). 14 10 3
9cm. Viewfinder 1 19 9
 39 7 2

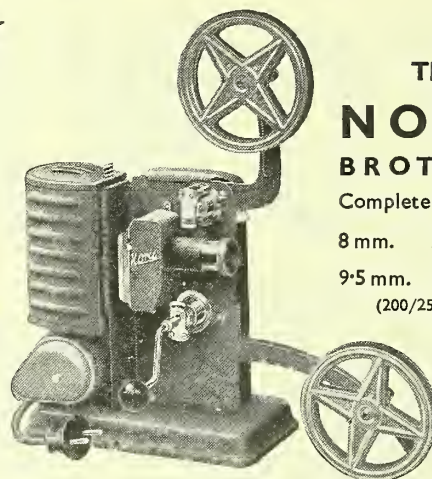
EDIXA II COUPLED RANGE FINDER (Split image)



Velio 5 speed shutter

- Lever Wind
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- Flash Synchronised

Price £24 19 10



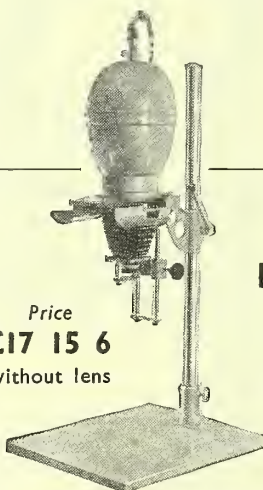
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(200/250 volts)

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Price
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AMYLOBARBITONE SODIUM B.P.C.	CYCLOBARBITONE B.P.C.
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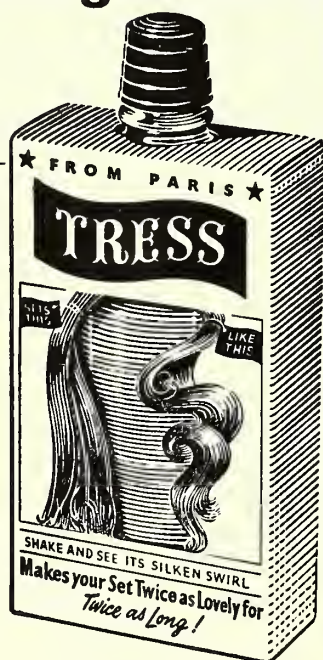
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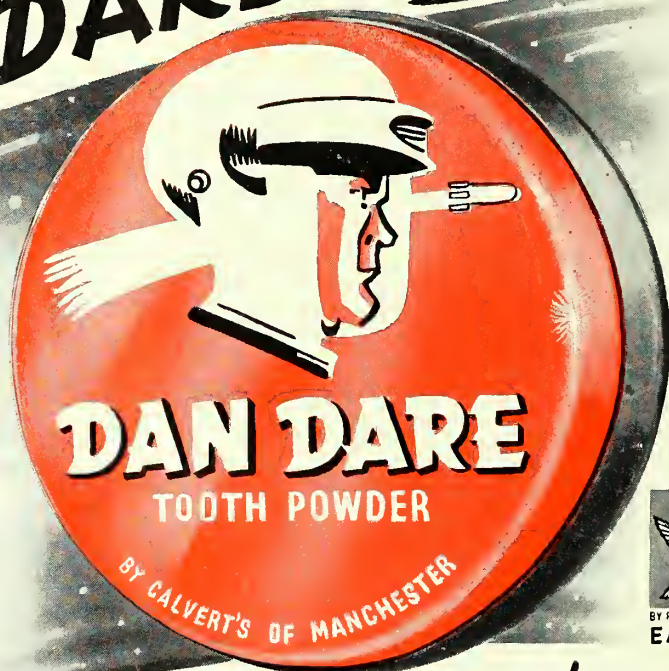
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TAS/AL.459

DAN DARE SELLS!

DAN DARE
TOOTH POWDER—
there's magic in the name
for thousands of kiddies, and
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your stocks of this new, novel,
teeth cleaning thrill,
created exclusively by
CALVERT'S;
inspired by the
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of the day.



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Dan Dare Tooth Powder is advertised in "Eagle" (readership over 2,250,000) and "Girl" (readership over 1,250,000). Both parents and children are taking their buying cue from these widely read weeklies.



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Get these colourful Display Units and Showcards for your counter or window. They will bring you custom.



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A tempting buy—free space picture cards are contained in every pack and a COLLECTING ALBUM given in exchange for outer wrappers. Repeat selling is assured!



CALVERT'S FAMOUS TOOTH POWDER WITH THE NEW APPEAL TO CHILDREN



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The wide range of Monsanto germicidal chemicals is at your service. One of the best-known is D.C.M.X., certainly the most powerful bactericide of its type today. It has a high R.W. co-efficient, low cost per R.W.

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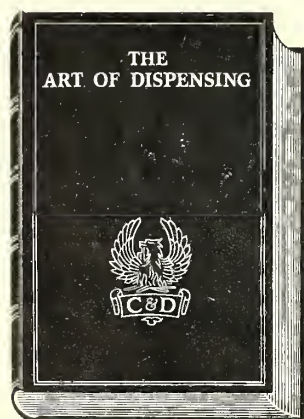
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an Old Favourite...*



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Completely re-written **1953**



"The Art of Dispensing" is the most economical, complete and up-to-date manual dealing with the pharmacist's work at the dispensing counter.

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FOR OVER A CENTURY**

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as your profits grow.



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DISPLAY

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PARNALL & SONS LIMITED · LODGE CAUSEWAY · FISHPONDS · BRISTOL

... new display sleeve

... extensive national

advertising



This season more than 20 million readers of Britain's largest national and provincial newspapers and popular magazines will be seeing KILKOF advertising. In its new eye-catching display sleeve, KILKOF is certain to be a bigger-than-ever "counter" attraction. And for KILKOF KONES—pleasant tasting throat pastilles—a campaign to sell from the display box on your counter. Attractive display cards and transfers are also available to help you in your selling. Stock up now to meet the assured demand!

*The cough mixture that
sells when displayed and
repeats sales on its quality*



KILKOF

and KILKOF KONES

MADE BY PARKINSONS LTD. MANUFACTURING CHEMISTS, BURNLEY

MORE SALES—MORE PROFIT

*Your wholesaler can
supply you promptly with*

BESORBON

(REGD. TRADE MARK)

MEDICINAL SNUFF

for colds and catarrh

but always order at least one dozen
and so secure the attractive and
convenient counter display box
which, on show, will increase your
sales.

MORE SALES — MORE PROFIT

KEMSALES LTD., 20 EASTCHEAP, LONDON, E.C.3

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GUARANTEED

THERMOMETERS

CLINICAL - HOUSEHOLD - INDUSTRIAL
When ordering Thermometers, insist upon
Brannans — made by highly skilled workers at
Britain's most modern Thermometer Factory.

S. Brannan & Sons Ltd.

Clinitherm Works,
Dalmain Road, Forest Hill,
London, S.E.23

Telephone: Forest Hill 3414 P. Ex.

Northern Factory:
Cleator Moor
West Cumberland

Tel.: Cleator Moor 310



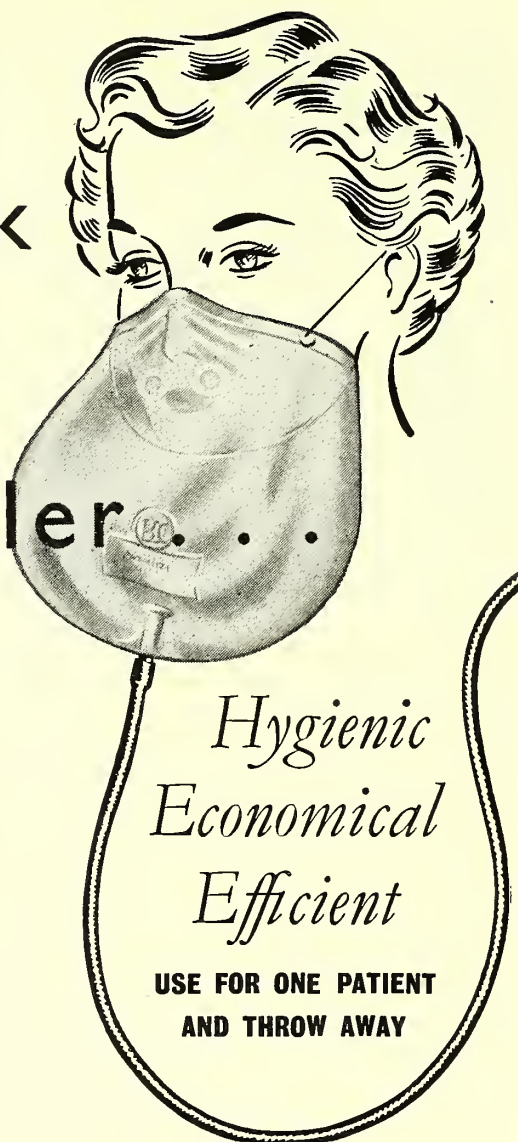
NOW — The Polymask *expendable*

Oxygen inhaler . . .

The low cost permits of a new mask being used for every patient. The risk of spreading infection is thereby avoided.

Strong, feather-light, safe, and comfortable to wear, this new type of mask conforms readily to the face structure, stays firmly in position, and permits conversation to be carried on quite easily. The periphery seals efficiently with the skin, giving high alveolar concentration . . . e.g approximately 70% at 7 litres of Oxygen per minute.

Available singly, or in boxes of 12, from chemists or any B.O.C depot, at only 2/3d per mask.



*Hygienic
Economical
Efficient*

**USE FOR ONE PATIENT
AND THROW AWAY**

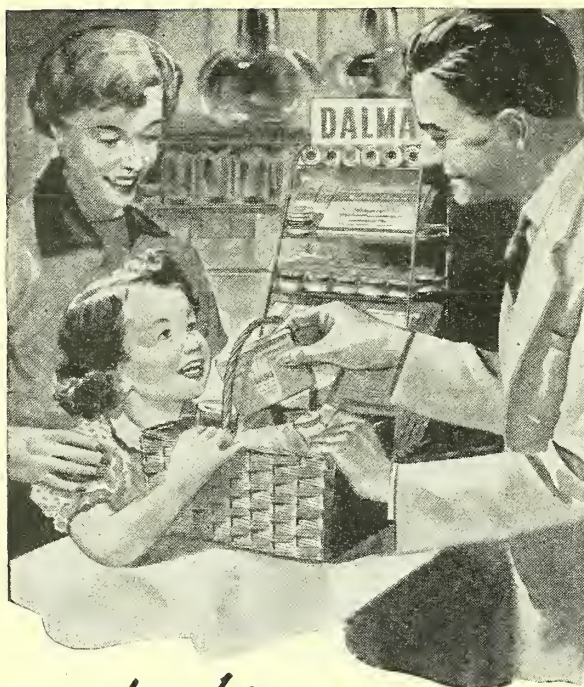
THE BRITISH OXYGEN CO. LTD

MEDICAL DIVISION



Great West Road
Brentford
Middx.

SERVICE AS UNIVERSAL AS THE NEED



another box of DALMAS dressings please

Housewives are attracted by better value. That's why it pays the chemist to sell Dalmas. The better value in the 'blue box' brings him repeat sales. The better quality of Dalmas Waterproof Dressings upholds his reputation for EXPERT knowledge and advice.

DID YOU KNOW ?

Did you know that Dalmas Waterproof Dressings stretch not just in one direction, or even two, but in ALL directions. THEY ARE FULLY FLEXIBLE. That's why they 'stay put' so much better.

THIS MEANS YOU
Dalmas Advertising directs the customer to YOUR door. Persuasive sales aids—displays, as in the illustration above, counter cards and sell out boxes—will complete the good work.



DALMAS
THE ORIGINAL & BEST
WATERPROOF
FIRST-AID DRESSINGS

MADE BY DALMAS LTD., LEICESTER & LONDON. EST. 1823.

Never run out of Curicones!

There's always a steady demand for the remedy which thousands of Rheumatic sufferers have found the most reliable of all. Once again its sales this season are showing a healthy growth. Many chemists have found a small counter display pay big dividends.

Why not try the effect of one yourself? Make sure you are carrying ample stocks of the 5/4, 13/4 and 25/6 size.

We still have small supplies left of our novel "weather indicator" showcard. It is most effective and surprisingly accurate. Send us

your name
and address
for one and
see the interest it attracts.

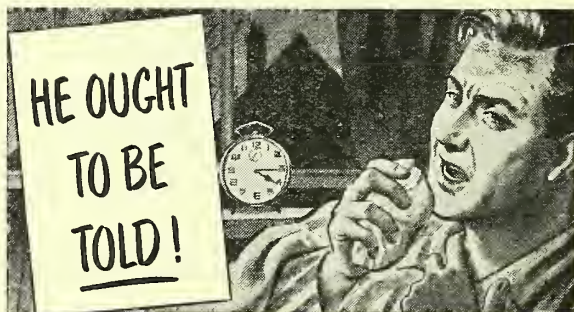
CURICONES



AND

PATA

STEPHEN MATTHEWS & CO., LTD.,
19/21 Farringdon Street, London, E.C.4



...about KAY'S for coughs

He is being told! Illustrations and captions like the one above, backed by a compelling sales story, have been appearing in the National Press—telling millions of men and women all about Kay's. You can profit from this publicity. Keep well stocked with Kay's Linseed Compound and Kay's Compound Pastilles—and have Kay's display material right in the front line on your counter!

KAY'S

LINSEED COMPOUND

also KAY'S Compound Pastilles



Enterofagos

Polyvalent Intestinal Bacteriophage

*The purely biological treatment
for most intestinal, para-intestinal
kidney and bladder infections*

ENTEROFAGOS is one of the series of M.B.L. preparations which enjoy the confidence of the Medical profession in this country and overseas. It is of established therapeutic value in the treatment of infective conditions of the gastro-intestinal tract, kidneys and bladder.

ENTEROFAGOS contains the active bacteriophages against Staphylococci, Streptococci, B. coli, B. Typhosus, B. paratyphosus, B. dysenteriae and Enterococci. Whatever the dosage, it can be given to adults or children without fear of harmful reactions, and this combination of efficacy and safety makes ENTEROFAGOS the ideal treatment for the infective conditions indicated.

The preparation is contained in ampoules to be taken orally according to the instructions supplied.

Indications

Most cases of **Diarrhoea** respond rapidly to treatment with **ENTEROFAGOS**. **Colitis**, **Enteritis**, **Entero-colitis**, **Typhoid** and **Paratyphoid Fevers**, **Bacillary Dysentery**, **B. Coli Infections**, **Food Poisoning** are equally responsive to its treatment.



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CARGREEN ROAD, SOUTH NORWOOD, LONDON, S.E.25





**a palatable liquid
preparation—
containing the principal vitamins
in an orange base**

FORMULA One teaspoonful (3.5 cc) contains:

VITAMIN A	2,500 i.u.	VITAMIN C	10 mg.
VITAMIN B ₁	0.5 mg.	VITAMIN D	375 i.u.

PRICES

	RETAIL	CHEMISTS	WHOLESALE
6 FL. OZ.:	3/9 each	30/- doz.	26/3 doz.
40 FL. OZ.:	24/- each	16/- each	14/- each

The 6 oz. bottle provides daily vitamin-insurance for one whole month.



VITAMINS LIMITED, UPPER MALL, LONDON W. 6

ANOTHER PRODUCT! —“G.P.” GERMICIDE

This is a modern antiseptic of the CHLOROXYLENOL type, safe and pleasant to use as a mouth wash, gargle, douche, antiseptic for cuts and wounds and as a disinfectant.

Independent Laboratory tests of “G.P.” give a Rideal Walker co-efficient of a minimum of 4 and it is an efficient bactericide. “G.P.” is non-toxic and non-staining and possesses a pleasant odour which is not too persistent.



“G.P.” is a high quality product supplied at very competitive prices which your customers will appreciate, and, in addition, is a “C.F.” line, which you will appreciate.

PRICES

	TRADE PRICE	PURCHASE Tax	RETAIL, each (inc. tax)
4-oz.	10/6 doz.	2/7½	1/5
8-oz.	15/9 doz.	3/11	2/2
1 Gall.	17/- gall.	4/3	-

CHEMISTS ONLY SUPPLIED

A PRODUCT OF
Cuxson Gerrard & Co. Ltd.
OLDBURY BIRMINGHAM

ADS. WITH PUNCH - IN PAPERS THAT PULL!

STOP troublesome COUGHS

A spoonful of Veno's swallowed slowly relieves the worst cough

STOP your COUGH

A spoonful of Veno's swallowed slowly relieves the worst cough

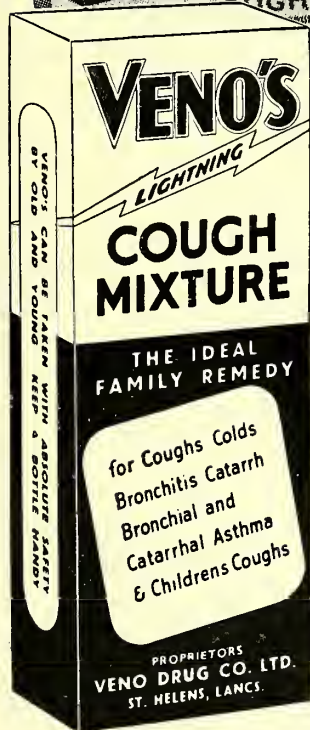
STOP children's COUGHS

A spoonful of Veno's swallowed slowly relieves the worst cough

VENO'S LIGHTNING COUGH MIXTURE

FOR NIGHT COUGHS, MORNING COUGHS, CHILDREN'S COUGHS, THROAT & CHEST SORENESS

A pleasure to sell - and big profits to show



Advertising in the National popular newspapers and in the big circulation weeklies describes VENO'S unique demulcent property which relieves the worst cough. Millions are reading about it. And sales are proving the justice of the claim.

The big VENO public will not be put off. They know the efficacy of the product! Be sure, therefore, to maintain stocks adequate for both window and counter display. Your rich reward will be a high turnover and big profits.

Please send all enquiries to

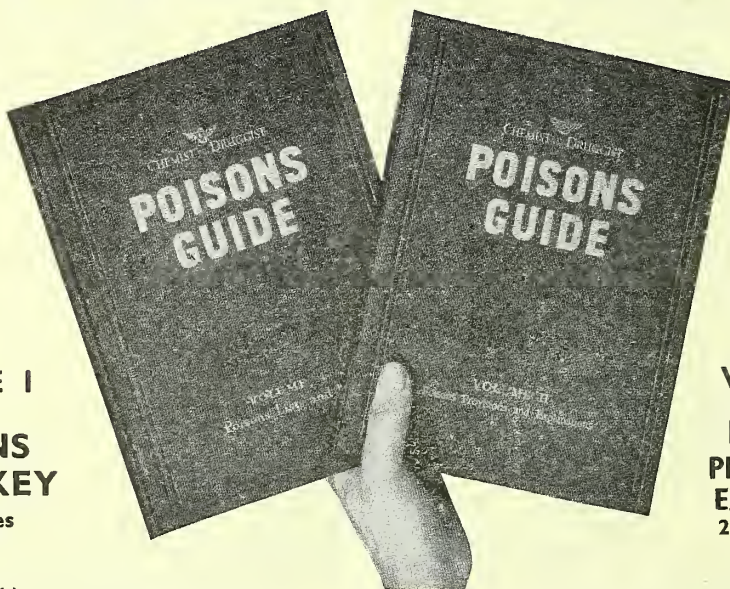
BEECHAM (NORTHERN) LIMITED, ST. HELENS, LANCs.

sole distributors for Veno Drug Co. Ltd.

AN ENCYCLOPÆDIA OF POISONS LAW

The
CHEMIST AND DRUGGIST

POISONS GUIDE



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W. A. WHATMOUGH
B.Sc., Ph.C., F.R.I.C.

No pharmacist, in whatever branch he is engaged, can afford to be without these two volumes, which together form a veritable encyclopædia of poisons law. They provide complete information on what the authorised seller of poisons should do in every situation covered by the Poisons Rules and Dangerous Drugs regulations and enable poisons to be supplied without the slightest anxiety. Order these essential volumes NOW!

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The
CHEMIST AND DRUGGIST

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An Addendum to the C. & D. Poisons Guide, Volume 2, devoted to the Dangerous Drugs Regulations, 1953, will be supplied at no additional cost to all purchasers of this book. The Addendum will also be supplied to all previous purchasers of Volume 2 on receipt of a 2½d. stamp to cover postage. Application for copies of the Addendum should be sent to The Publisher, 28 Essex Street, Strand, London, W.C. 2.

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- 2 Milk flows unimpeded.
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IMPORTED—PRE-WAR QUALITY

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GALLIC ACID PYROGALLIC ACID

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Permanent utility!

There is *always* a use
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The DOIDY Cup is popular because it not only functions as the "best ever" cup for baby up to

THREE YEARS OLD but it becomes a permanent household need in times of illness. The special slant of the DOIDY solves the problem of drinking without spilling. The DOIDY is consistently advertised—good sales—good profits. In strong plastic in pastel pink, blue and cream. Also earthenware. Complete in attractive carton. Retail at 3/11.

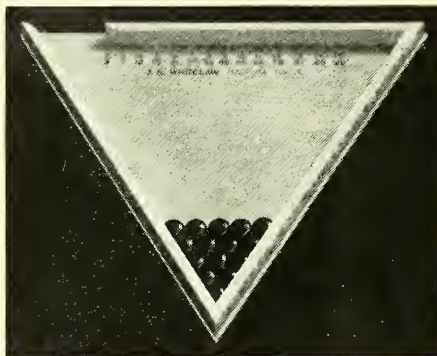
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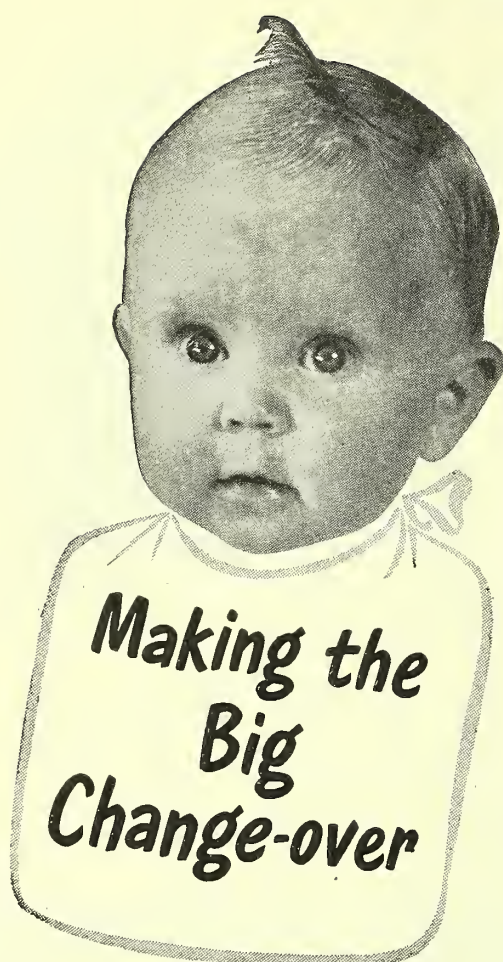
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The New Biochemic Tablet

Retail Price
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At five to six months of age babies make the change-over to mixed feeding—and more and more of them are going on to Bovril Brand Weaning Food.

You, too, can make a big change-over. Stock this quick-selling new product. Tell mothers about it. Explain how excellent it is. When travelling and on holiday a packet can be carried in a purse. A meal for Baby made in a single minute.

BOVRIL WEANING FOOD
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ideal when travelling and on holiday
very economical
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Retail price 6^d. 4 cube packet

For full particulars of trade terms please write to :—

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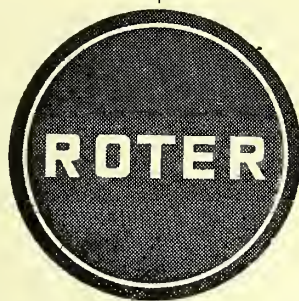


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★ *Plain or Graduated
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*for gastritis and peptic ulcer,
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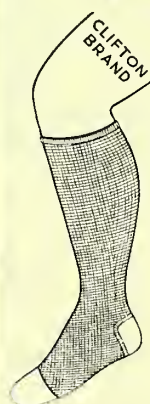
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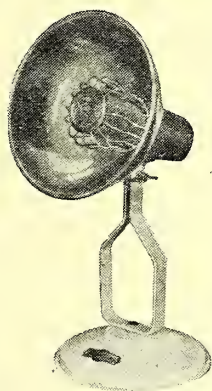
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This attractively finished model is finished in Ivory or Eau-de-Nil. Reflector dia. 9½". Height 16". Burner No. 2 L.W. 250 Watt or No. 2 M.W. 400 Watt. Supplied complete with Treatment Instructions.

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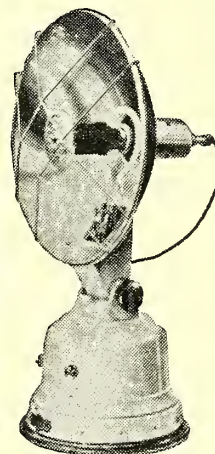
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DECEMBER 19 1953



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'Cetavlex' Cream, containing 0.5% 'Cetavlon' (Cetrimide B.P.) in a water-miscible base, is a particularly effective germicidal application for the control of infection in wounds and burns, and for the treatment of various infections of the skin.

'Cetavlex' Cream can be recommended with confidence for general antiseptis and healing—in hospital, in the factory, and in the home.

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'CETAVLEX' Cream

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